● **URBANIZATION**
Making Urban Environments Liveable

● **CITIES**
Great Housing Solutions and Building Technologies

● **KEY DATA**
Facts and Figures

● **STATE OF PLAY**
Solutions for Planned and Unplanned Cities

U N
D P

Empowered lives.
Resilient nations.

Southern Innovator
A magazine celebrating South-South innovation
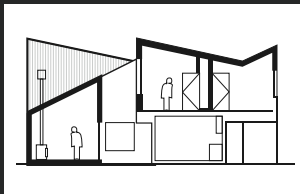
ISSUE 04 ▸ 2013

IN THIS ISSUE:

Smart Cities Up Close

Urbanization
Trends

Innovative
Home Designs

Cities &
Urbanization Issue

The Global South's Increasing Urbanization: Challenges to City Living

DOHA
LAGOS
WUHAN
BANGKOK
SHANGHAI
BEIJING
ACCRA
BUENOS AIRES
XIAN
TIANJIN
SAO PAULO
ADDIS ABABA

Source: McKinsey Global Institute

Southern Innovator

UN DP

Empowered lives.
Resilient nations.

About UNDP

UNDP partners with people at all levels of society to help build nations that can withstand crisis, and drive and sustain the kind of growth that improves the quality of life for everyone. On the ground in 177 countries and territories, we offer global perspective and local insight to help empower lives and build resilient nations.

The views expressed in this publication do not necessarily reflect those of the United Nations, the United Nations Development Programme or governments. The designations employed and material presented on maps do not imply the expression of any opinion whatsoever concerning the legal status of any country, territory or area, or its frontiers or boundaries.

Welcome to the fourth issue of *Southern Innovator (SI)*! It is a significant milestone for the magazine to reach and we hope that it augers a bright future for *SI* in 2013 and beyond. This issue's theme tackles the biggest population shift in human history. It is the result of a confluence of many factors, but the result is dramatic: the majority of the world's population is urban and many people are now living in sprawling megacities (cities with a population in excess of 10 million).

All of this change places great stress on the world's human population, on the environment and on governments and countries. How to manage this event is at the top of the agenda in many countries.

SI's fourth issue explores proven approaches, drawn from across the global South, that address this rapid urbanization while reducing poverty and boosting incomes. It shows practical steps that can be taken, for example, to recover quickly from a devastating disaster or to manage rapid urban population growth through better city planning and the deployment of eco-friendly and sustainable technologies to improve the use of resources. It shows how people can build quality houses without having to take on catastrophic debt loads and how to affordably increase the provision of public toilets in communities. *SI* has gone to the cutting-edge new cities currently being developed from scratch and witnessed how this is working and what can be learned from these initiatives.

One thing that stands out in all these stories is the power of human ingenuity to tackle very serious development challenges under stressful conditions. If the future is to continue to see gains in human development, then making this new urban world work better will be critical. As Lee Myung-bak, former President of the Republic of Korea, puts it: "If the 20th century was the era of nations, the 21st century is the era of cities."

In each issue of *Southern Innovator*, you will find contact information for further follow-up. We have attempted to provide the most current information, but given the quick pace of change in the global South, this is not always possible. We apologize in advance for any out-of-date information, including Internet links. We hope that this magazine makes a useful contribution to your work and helps to inspire all to act!

Cosmas Gitta
Editor-in-Chief
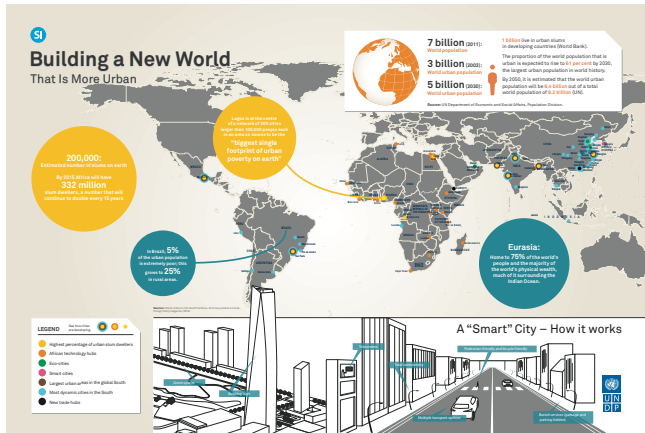Southern Innovator
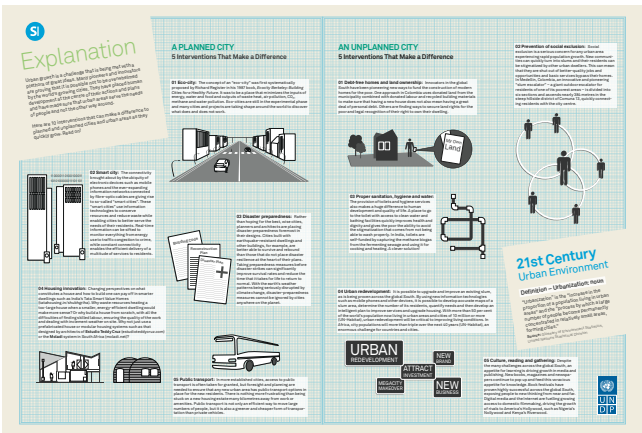www.southerninnovator.org

Cities & Urbanization

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Cities

Urbanization

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Building a New World
That Is More Urban

7 billion (2011):
World population

3 billion (2003):
World urban population

5 billion (2030):
World urban population

1 billion live in urban slums
in developing countries (World Bank).

The proportion of the world population that is urban is expected to rise to **61 per cent** by 2030, the largest urban population in world history.

By 2050, it is estimated that the world urban population will be **6.4 billion** out of a total world population of **9.2 billion** (UN).

Source: UN Department of Economic and Social Affairs, Population Division.

200,000:
Estimated number of slums on earth

By 2015 Africa will have
332 million
slum dwellers, a number that will continue to double every 15 years

Lagos is at the centre of a network of 300 cities larger than 100,000 people each in an area on course to be the
"biggest single footprint of urban poverty on earth"

In Brazil, **5%** of the urban population is extremely poor; this grows to **25%** in rural areas.

Eurasia:
Home to **75%** of the world's people and the majority of the world's physical wealth, much of it surrounding the Indian Ocean.

Sources: *Planet of Slums, CIA World Factbook,* McKinsey Global Institute, *Foreign Policy* magazine, OECD.

Map labels: Harbin, Shenyang, Tangshan, Tianjin, Rizhao, Qingdao, Dalian, Songdo, REPUBLIC OF KOREA, CHINA, Xian, Jinan, Hefe, Yuzhou, Chengdu, Wuhan, Nanjing, Suzhou, Shanghai, Chongqing, Hangzhou, Fuzhou, Changsha, Guangzhou, Ningbo, Xiamen, Foshan, Dongguan, Shenzhen, AFGHANISTAN, PAKISTAN, Delhi, NEPAL, Masdar, UNITED ARAB EMIRATES, Karachi, INDIA, Kolkata, Dhaka, BANGLADESH, Bombay or Mumbai, THAILAND, Bangalore, Bangkok, Jakarta, INDONESIA, Tunis, TUNISIA, Alexandria, Cairo, Giza, ALGERIA, EGYPT, Dakar, SENEGAL, CHAD, DJIBOUTI, Addis Ababa, ETHIOPIA, LIBERIA, GHANA, NIGERIA, Monrovia, Accra, Lagos, Douala, CAMEROON, UGANDA, Kampala, KENYA, SOMALIA, DEMOCRATIC REPUBLIC OF THE CONGO, RWANDA, Kigali, Nairobi, Kinshasa-Brazzaville, UNITED REP. OF TANZANIA, Dar es Salam, Luanda, ANGOLA, ZAMBIA, Lusaka, Antananarivo, MADAGASCAR, Pretoria, SOUTH AFRICA, Cape Town, MEXICO, Mexico City, PERU, Lima, BRAZIL, Brasilia, Belo Horizonte, Rio de Janeiro, Sao Paulo, CHILE, ARGENTINA, Santiago, Buenos Aires

LEGEND — See how cities are developing.

- Highest percentage of urban slum dwellers
- African technology hubs
- Eco-cities
- Smart cities
- Largest urban areas in the global South
- Most dynamic cities in the South
- New trade hubs

A "Smart" City – How it works

- Telescreens
- Pedestrian friendly and bicycle friendly
- Total connectivity
- Green spaces
- Building high
- Multiple transport options
- Buried services (garbage and parking hidden)

UNDP
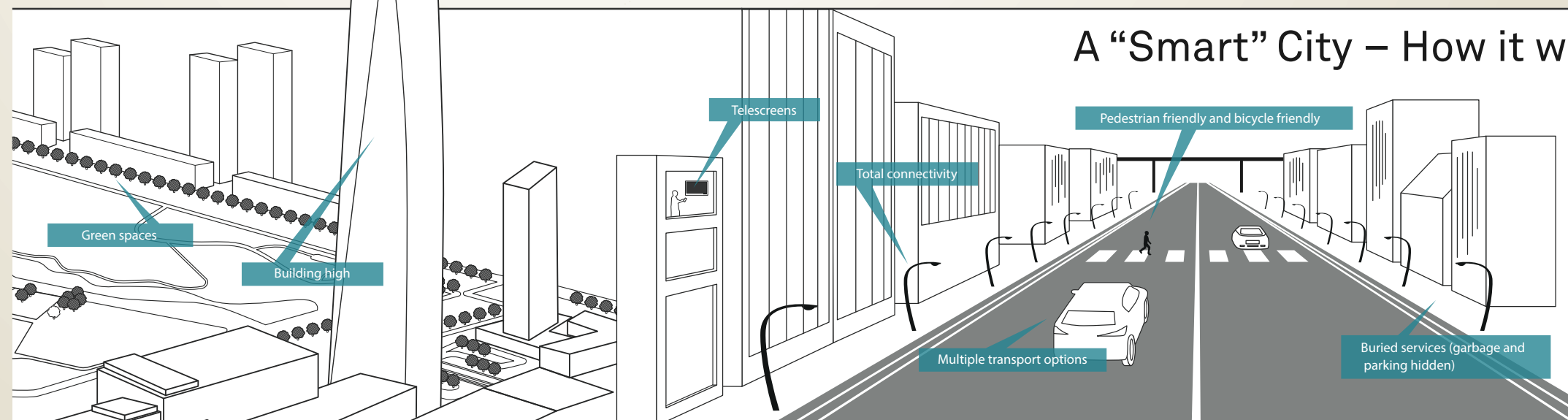
Cities

Introduction

The world will see an explosion in the growth of cities in the coming decade. Existing cities will grow and new cities will emerge. For many millions, they will go from living in small, rural places to living in the world's mega-cities. Some countries are developing – or have developed – elaborate plans to deal with this growth. Many concepts exist, including building "smart cities" and "eco-cities" to better use resources and improve the quality of life in urban areas.

The world has gone from having a very small minority of people living in cities – just 3 per cent of the world's population in 1800 – to having most people living in urban areas.

Many of these cities will be classified as megacities: a megacity is a city with a population greater than 10 million. The number of such cities will double over the next 10 to 20 years. Many of these cities are in South and East Asia, and by 2025, seven of the world's top-10 megacities will be in Asia.

And it isn't just the large countries such as China and India that will have megacities. According to a report by the International Institute for Environment and Development, Africa now has a larger urban population than North America and 25 of the world's fastest-growing big cities, whereas Europe's share of the world's 100 largest cities has fallen to under 10 per cent in the past century.

1 Bosnia and Herzegovina
2 Croatia
3 Serbia
4 Montenegro
5 Slovenia
6 The former Yugoslav Republic of Macedonia

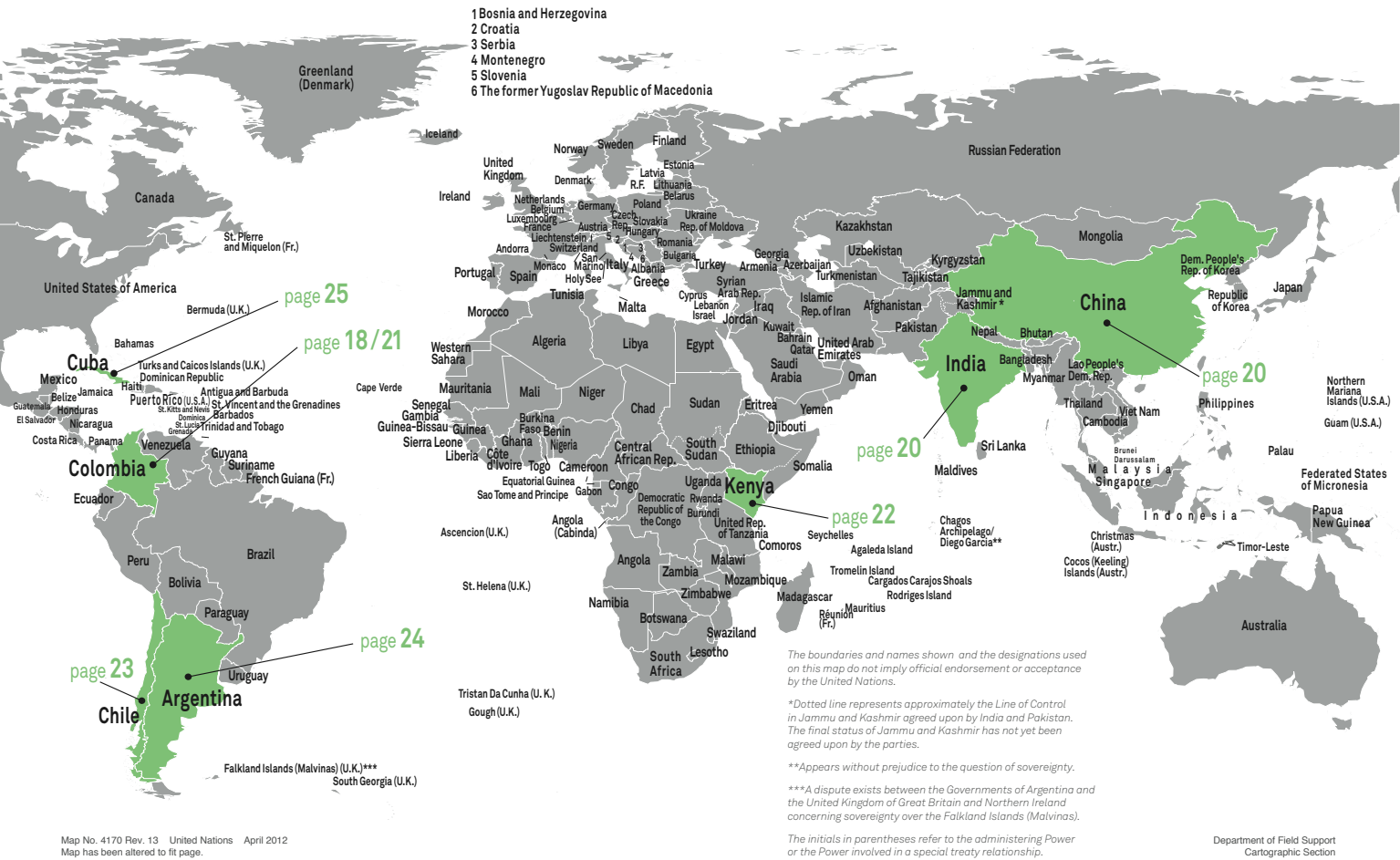The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

*Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

**Appears without prejudice to the question of sovereignty.

***A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The initials in parentheses refer to the administering Power or the Power involved in a special treaty relationship.

Map No. 4170 Rev. 13   United Nations   April 2012
Map has been altered to fit page.

Department of Field Support
Cartographic Section

Mobile Phone Shopping to Create Efficient Markets across Borders

An anticipated game-changing revolution in African trading set for 2013 is getting one innovative business very excited.

Southern African mobile phone "m-commerce" pioneer **moWoza** (mowoza.com) is developing new ways of selling services and products through mobile phones and developing the networks and infrastructure to capitalize on coming changes in Africa as cross-border trade is liberalized.

It is already selling food packages containing well-known South African brands that can be ordered by migrants on their mobile phones and then delivered to recipients – family or friends – even in remote and hard-to-reach communities. The service is currently operating between Mozambique and South Africa – the two countries share a border. – (August 2012)

The Water-free Bathing Solution

A clever South African, **Ludwick Marishane**, has developed a clear gel that works like soap and water but doesn't need water to get a person clean.

The product is called **DryBath** (headboy.org/drybath) and uses a "proprietary blend of a biocide, bioflavonoids and moisturizers." It differs from common liquid hand anti-bacterial cleanser products that people use to sterilize hands. Those products use alcohol to simultaneously kill germs and evaporate the liquid.

DryBath works in a different way by not requiring water or alcohol to complete the washing. The liquid gel is odourless and biodegradable, moisturizes and does not need to be rinsed off. It instead leaves users smelling fresh and "tackles the hygiene and water-consumption problems in a manner that has never been used before." – (September 2012)

Building a New World
That Is More Urban

See infographic pages 6-7

Quick Facts

- By 2025, the developing world, as we understand it now, will be home to 29 megacities.

- Sixty-two years ago, New York and Tokyo were the world's only megacities – "urban agglomerations" with over 10 million residents.

- Tokyo is forecast to remain "the world's most populous urban agglomeration" by 2025. With 37.2 million residents, more people live there than in Canada but greater Tokyo's growth has ground to a halt and fast-growing rivals such as Delhi, Shanghai and Mumbai are closing in.

- Millions of rural families poured into São Paulo in the 1960s and 1970s to make it South America's first megacity. New arrivals were pushed into massive slum settlements, known as favelas.

Sources: *The Guardian* and *Foreign Policy* magazine

60%
Or 1.2 billion Africans will be urban dwellers by 2050

US$795.5 billion
Amount China will invest in urban development and energy-saving projects through an undefined period of time, possibly by 2017–2020

72%
Number living in slums in sub-Saharan Africa

1 billion
Number of people in the world lacking decent shelter

Source: FAO

Shopping and Flying in Africa's Boom Towns

Africa is now receiving the attention of the global airline industry. The **Abuja Declaration** aims to bring the African accident rate in line with the global average by 2015. And it is hoped that the added competition and introduction of more global players will also raise standards and make flying in Africa safer, more convenient and cheaper.

The experience of Europe and North America shows that increased air traffic brings a boost to economic growth.

With more frequent, safer and more reliable air routes, business people will be able to move around and strike deals, tourists can get around and traders can cross borders without the hassle of navigating poor road networks. – (August 2012)

Q & A

A book launched at the 2010 World Urban Forum in Rio de Janeiro, Brazil, highlighted ways in which people across the South are shaping how their cities evolve, insisting that they will not accept social exclusion and demanding a "right to the city".

We are now living through the largest increase in the world's urban population and much of this growth is haphazard and poorly planned. It seems like a vast and over-whelming phenomenon. How can the concept of the "right to the city" change this?
In my understanding, urban growth is not haphazard or poorly planned in "developing" countries. Rather, I think that urban "planning" or lack of planning is done with a goal of generating more benefits for powerful interests and fewer benefits for poor people. We cannot categorize the right to the city as a concept, as it will not change anything. Instead, we must think of the "right to the city" as a lively alternative proposal, a banner under which social movements, academics and social organizations are struggling against the perverse effects of neo-liberalism in cities such as the privatization of land, public spaces and services, land speculation, gentrification, forced evictions, segregation, and exclusion. This right to the city is based on a dynamic of process and conquest in which social movements are the engines driving the achievements of this right.

Your book clusters together many cases from across the South. From your research, which cities offer hope and what changes did they make?
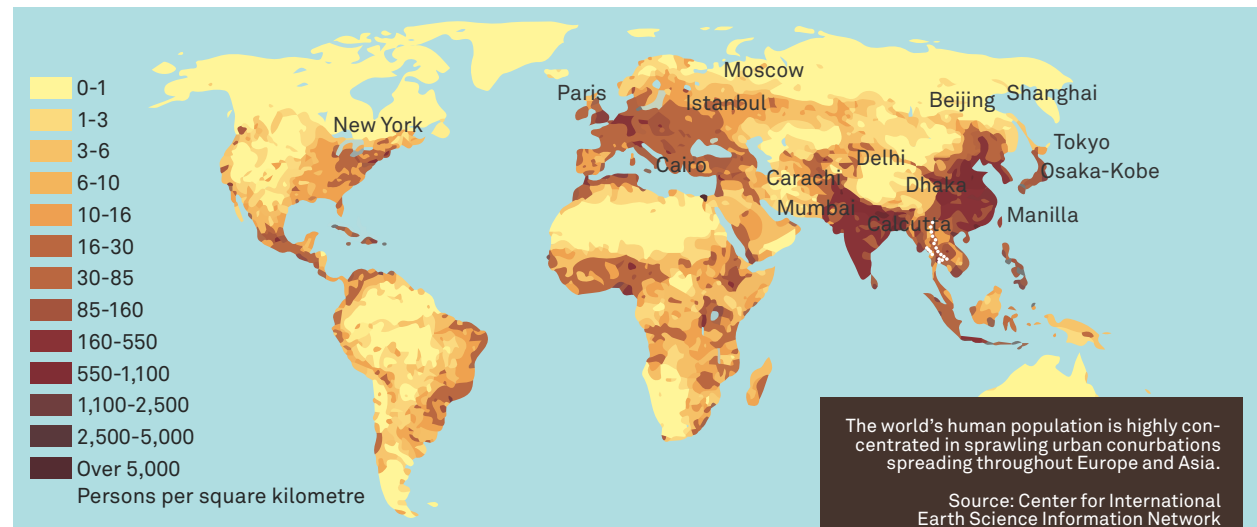Cities are not offering hope. People are the ones who promote change and hope, struggling for a better quality of life, with justice and peace.

Charlotte Mathivet
Co-editor of *Cities for All: Proposals and Experiences towards the Right to the City*
Habitat International Coalition
Santiago, Chile
(hic-net.org)

9

The Global South's Rising Megacities: A Challenge to Urban Living

The world crossed the threshold from being a majority rural world to a majority urban one at the end of the first decade of the 21st century. The reason for this is the fast-growing urban areas of the global South, and this is having a profound effect on how the world's people live.

0-1
1-3
3-6
6-10
10-16
16-30
30-85
85-160
160-550
550-1,100
1,100-2,500
2,500-5,000
Over 5,000

Persons per square kilometre

New York
Paris
Moscow
Istanbul
Beijing
Shanghai
Cairo
Delhi
Tokyo
Osaka-Kobe
Carachi
Dhaka
Mumbai
Calcutta
Manilla

The world's human population is highly concentrated in sprawling urban conurbations spreading throughout Europe and Asia.

Source: Center for International Earth Science Information Network

Across the global South, there are many examples of unchecked growth leading to squalor and poor housing conditions, and in turn to poor health and high rates of crime and disorder. The urbanization happening today across the global South is unprecedented for both its speed and its scale.

It is this unprecedented speed and scale that are challenging governments and policymakers.

Many countries and regions are experiencing highly stressed environmental conditions, with poor access to water and rising air pollution damaging human health. At the same time, unprecedented change in technology and communications is taking place. Every year, more and more of the world's population gains access to 21st-century communications such as smart phones and the Internet or "apps" (applications), allowing the exchange of solutions and ideas at a rapid pace.

Many are weighing the benefits and downsides of such an urban, dense world. Denser cities make it easier and more efficient to deliver services, and proponents see a rapid rise in living standards in these megacities. Others see wide-scale poverty and vicious fights over resources in crime-ridden, unhealthy, packed megacities. These pessimists point to current conditions in many megacities across the global South.

Regardless of the perspective, many agree that there must be a cultural change in how people live and behave to make the megacities work.

The first big push from rural to urban took place in Europe in the 19th century. In 1800, just 3 per cent of the world's population lived in cities. All the cities now seen as cosmopolitan hubs of economic and creative energy were just shadows of themselves prior to the 19th-century industrial revolution.

Lessons were learned from hard experience and one of the most important lessons was this: if a city is to grow – and grow quickly – then it must plan for this growth and put the well-being of people at the centre of this plan. This is critical to ensure that public health is improved and that the transition to denser living conditions improves human well-being rather than making it worse.

The number of megacities will double over the next 10 to 20 years. Many of these cities are in South and East Asia and by 2025, seven of the world's top-10 megacities will be in Asia. Whole new cities are appearing that most people across the world have never heard about – yet.

One of the most rapidly urbanizing countries in the world is China. At the beginning of 2012, Chinese authorities announced that the country had become a majority urban place, with most citizens living in cities. This population of 690.79 million surpassed the rural population of 656.56 million people.
– (May 2012)

• zaha-hadid.com
• mckinsey.com
• globalurbanist.com
• observerindia.com

Global South Eco-cities Show How the Future Can Be

The world is currently undergoing a high-stress transition on a scale not seen since the great industrial revolution that swept Europe in the 19th and 20th centuries. Today's urban and industrial transition involves many more people and is taking place on a greater proportion of the planet. With rapid urbanization comes a demand for middle-class lifestyles, with their high-energy usage and high consumption of raw materials.

This is stretching the planet's resources to the breaking point, and, as many have pointed out, if the world's population is to continue past today's 7 billion to reach 9 billion and more, new ways of living are urgently required. Radical thinking will be necessary to match the challenging goal of raising global living standards for the world's poor with pressured resources and environmental conditions.

But there are innovative projects already under development to build a new generation of 21st-century cities that use less energy while offering their inhabitants a modern, high quality of life. The two examples are China's **Sino-Singapore Tianjin Eco-City**, and **Masdar City** in the United Arab Emirates.

Both projects are seen as a way to earn income and establish viable business models to build the eco-cities of the future. They hope to prove that there is money to be made in being green and sustainable. Each project is seeking to develop the expertise and intellectual capacity to build functioning eco-cities elsewhere. In the case of the Masdar City project in the United Arab Emirates, international businesses are being encouraged to set up in Masdar City and to develop technologies that can be sold to other countries and cities – in short, to create a green technology hub akin to California's high-technology hub, Silicon Valley. Masdar City is also being built in stages as investors are found to help with funding.

Masdar City is trying to become both the world's top centre for eco-cities and a living research centre for renewable energy. Masdar is planned to be a city for 40,000 people. It is billed as a high-density, pedestrian-friendly development where current and future renewable energy and clean technologies will be "marketed, researched, developed, tested and implemented."

The city hopes to become home to hundreds of businesses, a research university and technology clusters.

This version of an eco-city is being built in three layers in the desert, 17 kilometres from the capital, Abu Dhabi. The goal is to make a city with zero carbon emissions, powered entirely by renewable energy. It is an ambitious goal but there are examples in the world of cities that use significant quantities of renewable energy for their power, such as Reykjavík, Iceland, in northern Europe, which draws much of its energy from renewables and geothermal sources.

Masdar City is designed by world-famous British architect Norman Foster and will be 6.5 square kilometres in size.
– (June 2012)

• tianjinecocity.gov.sg
• masdarcity.ae/en
• fosterandpartners.com
• segway.com

By using tall buildings, upwards of 30,000 families or 80,000 residents can be provided with housing in Chengdu Tianfu district, China.

The master plan for the 1.3km² sustainable satellite city in Chengdu. It will occupy a 3km² site.

A system of electric shuttles will make automobile journeys unnecessary.

2050
2012
9 billion people
7 billion people
Population on Earth
2012
2050

By 2040, Africa's urban population will be 1 billion and 1.23 billion in 2050, with 60 per cent of Africans living in cities (UN-Habitat).
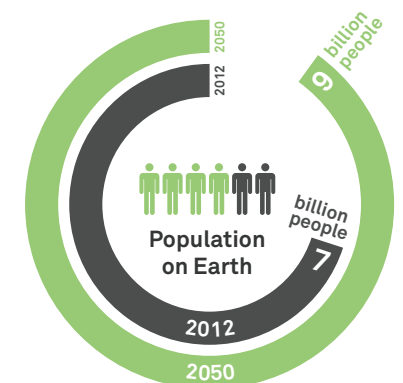
African Megacity Makeovers Tackle Rising Populations

Nigeria's largest, busiest and most congested city, Lagos, has long had a reputation for dynamism mixed with chaos. Its sprawling slums and ballooning population have for decades stretched governments' ability to provide services.

The 2006 census placed the city's population at close to 8 million, making it the most populous city in the country and the second-largest in Africa after Cairo. One forecast saw the population reaching 23 million by 2015. Lagos was called the fastest-growing city in Africa by UN-Habitat (2008). The city is Nigeria's economic and financial hub and critical to the country's future.

According to a report by the **International Institute for Environment and Development**, Africa now has a larger urban population than North America and 25 of the world's fastest-growing big cities. Coming to grips with urban development will be critical for the future of the continent and the well-being of its people.

In West Africa, an OECD study found that the area stretching along the Gulf of Guinea in the Atlantic Ocean had a network of 300 cities larger than 100,000 people and the greatest number of urban poor on the planet. It is a common problem across the South as fast-growing city populations surge past the ability of institutions and infrastructure to cope.

> **Hebel believes turning local would cut building costs by a third and save on costly imports**

It is a development challenge that urgently needs solutions. In Lagos, the Oluwole district, formerly a crime-plagued slum, has been transformed into a new marketplace, and the plan is to follow this with new offices, homes and shops. The brainchild of the Lagos State Governor, **Babatunde Fashola**, redevelopment of the 20,000-square-metre site is part of his multi-stage plan to bring more order to the chaos that is daily life in Lagos. There are also ambitious plans afoot to build new roads and bridges. The area's traffic congestion is also being targeted for solutions. The former slum is now rebranded as the **Oluwole Urban Market and Multifunctional City Centre** and is being redeveloped in partnership with the private sector.
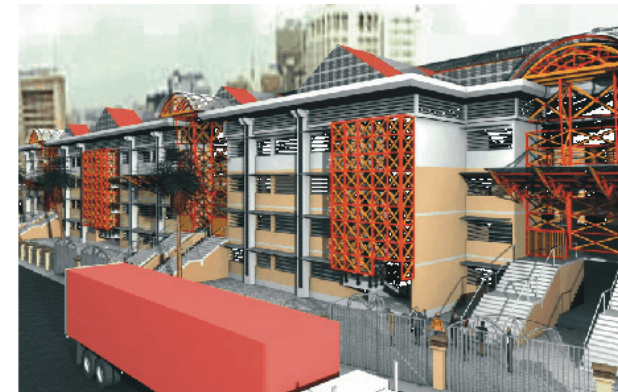

A typical market in Lagos, Nigeria.

Lagos State Governor, Babatunde Fashola.

The redeveloped slum is part of the much larger **Lagos Island Central Business District (CBD) Revitalization/ Marina City Project**, a five-year project jointly executed by the Lagos government and private-sector players. This project has already begun with the redesigning and reconstruction of roads and infrastructure within the CBD and the adjoining axes.

Another fast-growing African city is Addis Ababa. The capital of the East African country of Ethiopia, it has been in the grips of a building boom for the past few years but much of this building has been unplanned and, to many, is ugly. The current building boom's architectural legacy has been criticized for leaving buildings that are too hot for the climate and require expensive air conditioning systems. They also use imported cement and steel and are not earthquake-proof.

Addis Ababa was founded in 1886 by Emperor Menelik II. It is now host to the African Union and it is this important role that has architects advocating for a new approach to the city's development.

Addis is home to some of the highest-density urban slums in the world, according to the UN. Some estimates place the population of the city at 4.6 million, and that could double by 2020. But its pattern is unusual for an African city. **Dirk Hebel** of Addis Ababa's architecture

---

The architect's vision for the new market in Lagos, Nigeria.

How the redeveloped market looks.

school told *The Economist* that it defies the usual pattern of rich centre and poor periphery. Instead, because crime is low and the rich seem to tolerate the poor living among them, the slums are jammed between office buildings and flats in the wealthy parts of the city. Architects favour smaller buildings that stay true to local stone and traditional guttering to collect the rain. Hebel believes turning local would cut building costs by a third and save on costly imports. The architecture school has received funding from a technical institute in Zurich, Switzerland, called **ETH** to help develop new ideas.

Hebel and ETH's head, **Marc Angelil**, have written a book profiling the architectural styles of the city.

The city is plagued – like so many in the South – by pollution and traffic gridlock. Growth is projected to be so large by 2050 that the country would need 20 new cities of 5 million people each to accommodate it (UN). This is an epic challenge requiring imaginative thinking and new ways. – (November 2010)

- www.africa-union.org
- www.ethz.ch/index_EN

Meet Southern Innovator

The third issue

Southern Innovator (SI) comes packed with stories, images and contact details about a new generation of pioneering innovators across the global South.

Global reach

SI is distributed around the world, from the buzzing new urban megacities of the South to the poorest places on earth.

Stories to learn from

There isn't a better way to learn than from others in the same situation. SI's stories share details on success and innovation and have links to resources – so that readers can get down to work.
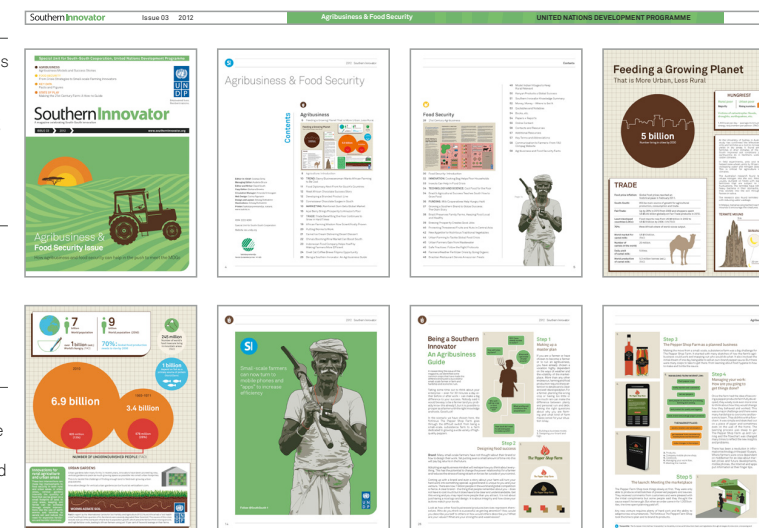
Rich infographics

Complex data and trends are transformed into clear graphics for ease of understanding.

Eye-catching illustrations and graphics

Concepts are reinforced through visual images to aid understanding.

Getting connected

Southern Innovator is packed with resources and is backed up with a website and a monthly e-newsletter. Each issue is intended to provide inspiration and practical information to get started on the journey to being a Southern innovator!

SI

For city dwellers, mobile phones make connecting easier: currently, 600 global cities account for 60 per cent of global economic output

(McKinsey Global Institute)

Follow @SouthSouth1

UN DP

Model Cities across the South Challenge Old Ways

Pioneering thinking about how resources are used and how people live their lives is taking place in the dynamic economies of the global South. Facing a vast population surge to urban areas, it includes attempts to build "green" cities and low-waste, smart and digital communities.

These model cities are clever solutions for the world's growing – and urbanizing – populations coping with a stressed and damaged environment. Unlike one-off technologies and ideas developed in isolation, the model-cities approach starts from scratch. The cities become living laboratories in which research and development take place at the heart of the community and are not just the preserve of aloof academics hidden away in labs.

This is critical work because the world is rapidly urbanizing and needs solutions to ensure that this process does not lead to chaos and misery. How these cities turn out could help to determine the fate of humanity.

By 2025, Asia could have 10 or more cities with populations larger than 20 million (*Far Eastern Economic Review*). People will be living in densely populated cities and they will need to be smart cities if they are to work.

In the Republic of Korea, the **Digital Media City (DMC)** in Seoul bills itself as a "harmony of nature, hi-tec, and culture". The Seoul municipal government devised the DMC in the 1990s to capitalize on the economic and social benefits of being the world's most digitally wired country.

The DMC project serves the country's larger goals of transitioning from a manufacturing to an innovation economy and promoting Seoul as an East Asian hub for commerce. The DMC is about creating new business opportunities.

But this isn't just about business and research and development: it is a comprehensive digital-economy experience, with schools, housing for the affiliates of international firms, moderate and lower-income housing, commercial and convention facilities, entertainment zones, and the city's central rail station, all located in or near the Digital Media City.
– (February 2012)

• Digital Media City: tinyurl.com/cmlvzvm

PHOTOS & IMAGES
1 Public housing in the Sino-Singapore Tianjin Eco-city in China.
2 Artist's impression of future 2,000-hectare site for Konza Technology City near Nairobi, Kenya.
3 The Konza Technology City master plan.
4 A school in the Sino-Singapore Tianjin Eco-city in China.

Innovation in Growing Cities to Prevent Social Exclusion

A new book launched during the 2010 **World Urban Forum** in Rio de Janeiro, Brazil, highlights ways in which people across the South are shaping how their cities evolve, insisting that they will not accept social exclusion and demanding a "right to the city".

"A lot of social initiatives based on the right to the city are coming from these 'new cities of the South'," said one of the book's editors, **Charlotte Mathivet**, of **Habitat International Coalition** in Santiago, Chile. "The book highlights original social initiatives: protests and organizing of the urban poor, such as the pavement dwellers' movements in Mumbai, India, where people with nothing, living on the pavements of a very big city, organize themselves to struggle for their collective rights, just as the park dwellers did in Osaka, Japan."

> **We must think of the right to the city as a lively alternative proposal**

This first edition of *Cities for All: Proposals and Experiences towards the Right to the City*, comes in three languages and is intended to inspire people to tackle positively this fast-changing urban world.

The book's chapters span an eclectic mix of topics, from democracy in the world's future cities to experiences in Africa's cities, how the 2008 Beijing Olympics affected the metropolis and ways of involving children in urban planning. One innovative case study included in the book is on the children's workshops in Santiago, Chile, which aim to make a more child-friendly city by including children in the planning process.

Cities for All's publisher, Habitat International Coalition (HIC), says that it focuses on the link between "human habitat, human rights, and dignity, together with people's demands, capabilities, and aspirations for freedom and solidarity."

The group works towards the creation of a theoretical and practical framework for what it calls a "right to the city". – (July 2010)

• hic-net.org
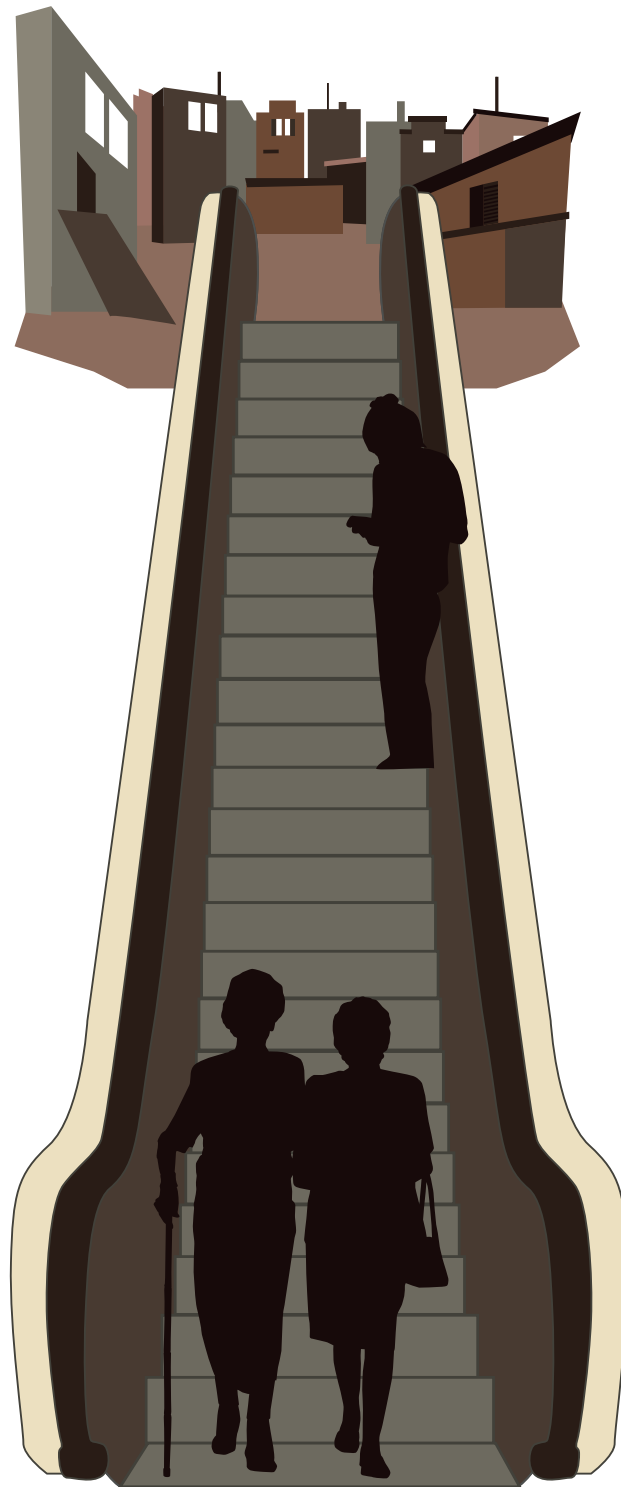
An innovative solution to connect a hillside slum in the Colombian city of Medellín to the centre of the city uses a giant outdoor escalator so its 12,000 residents do not need to walk up steps again. It turns a 35-minute hike on foot up the hillside into a six-minute ride on the escalator.

Indian Toilet Pioneer Champions Good Ideas

Access to adequate sanitation and toilet facilities is critical to making development gains. Yet this simple fact of life is often overlooked, especially in fast-growing cities where populations are on the rise or in transit. Out of an estimated 2.6 billion people in the world without toilets, two thirds are in southern and eastern Asia (World Toilet Organization).

One country currently failing to meet the needs of its population is India. According to the McKinsey Global Institute, by 2030, 70 per cent of India's jobs will be created in its cities and 590 million Indians will be city dwellers.

As **K.T. Ravindran**, a professor of urban development, told *The New York Times*: "We require radical rethinking about urban development. It is not that there are no ideas. It is that there is no implementation of those ideas."

It is this ability to act that makes the **Sulabh International Social Service Organization** stand out. The Indian non-governmental organization (NGO) sees itself as a movement and is a passionate advocate for toilets and toilet innovation for the poor and underserved. Sulabh was founded in 1970 by **Dr. Bindeshwar Pathak**, who saw the vast task ahead. "I thought the challenges to provide toilet facilities have been overcome in rich countries; they have still to be met in developing countries like India," he said.

So far, Sulabh has brought together 50,000 volunteers across the country to build toilets and sanitation facilities.

The organization's success flows from understanding that it needs to do more than supply the "hardware" of the toilets. It also needs to address the "software": ideas and innovation and concepts.

The organization has directly built 1.2 million household toilets but the Government of India has built a further 54 million based on the designs made by Sulabh. It is an example of a good idea multiplying its impact when picked up by others.

While 10 million Indians use a Sulabh-built sanitation facility each day, according to the group's website, an estimated 300 million are using a toilet based on Sulabh's designs.

The most influential is Sulabh's two-pit, pour-flush toilet. It consists of a toilet pan with a steep slope using gravity to flush the pan. The successful design has been evaluated and approved by UNDP and the World Bank. – (May 2011)

• sulabhenvis.nic.in/Database/sanita_sulabhtechnology_2133.aspx
• sulabhtoiletmuseum.org

The Sangliwadi Community Toilet built by India's Shelter Associates (shelter-associates.org). It turns the waste into biogas for cooking and heating.

Nearly 650 million Indians lack access to proper toilet facilities – a majority of the population (UN)

Image: Shelter Associates.

Colombian Architect Proving Strength and Beauty of Bamboo

Fast-growing bamboo grass has become a cause célèbre among those looking for a sustainable and tough building material.

In the last five years, more and more construction projects have turned to bamboo, which has many advantages: it grows quickly, is super strong yet also supple enough to bend in a hurricane or earthquake and has a high tensile strength equivalent to steel. It is, of course, green since it is grown in forests and it is cheap and plentiful in many countries of the South, especially across Asia and Latin America. It is also aesthetically pleasing and can be used to make beautiful structures with intricate patterns.

Despite all these advantages, however, it has been a hard sales job to get people to choose bamboo as a building material rather than traditional woods, steel or concrete. Many people wrongly think that "green" means "not strong", but as many a construction worker knows in Asia, where scaffolding made from bamboo is commonplace, it is tough and stands on its own.

Pioneers are working hard to prove that bamboo deserves respect as a building material for a greener future.

Award-winning Colombian architect **Simón Vélez** has designed more than 200 bamboo buildings in Brazil, China, Colombia, Ecuador, France, Germany, India, Jamaica, Mexico, Panama and the United States of America. Vélez's commissions are varied and include a bridge for the Bob Marley Museum in Jamaica.

One of his recent projects is the **Zócalo Nomadic Museum** in Mexico City. Another is the **Crosswaters Ecolodge**, the first ecotourism destination in China in the forests of **Nankun Shan Mountain Reserve**, Guangdong Province. For the **Expo Hanover 2000**, he designed and constructed a 2,000-square-metre bamboo pavilion for **Zero Emissions Research Initiative (ZERI)**.

Vélez has developed pioneering joinery systems to connect bamboo poles. This is a critical focus of innovation if bamboo structures are going to win people's trust.

Based in Bogotá, Colombia, Vélez uses a well-trained crew to make his buildings and structures, which offers the advantage of building expertise and a history of lessons learned from past successes and failures. This stability is critical since many good ideas suffer from a lack of stability
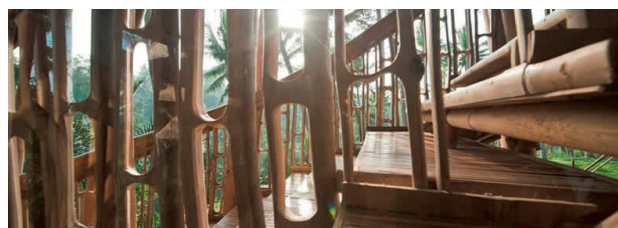
Green Village Bali is a master-planned community based in Bali, Indonesia and is built using bamboo as the main construction material. It is a good example of how architects are being inspired by the possibilities for creative design using bamboo. Green Village aspires to be an "innovative residential villa development" according to its website. It has "residential and commercial spaces as well as artisan crafted bamboo furnishings inspired by a timeless Scandinavian design sensibility".

and longevity. Vélez uses very simple, hand-drawn sketches on a single sheet of paper. He works with the peculiarities of the bamboo and does not treat it like wood, a common mistake.

To tackle the woeful lack of decent housing for the poor, he has developed a low-cost house that can be built by homeowners. It is highly resistant to earthquakes and is 60 square metres divided into floors. It costs around US$5,000 to make in Colombia. – (December 2010)

• zeri.org
• princeclausfund.org

Making Bamboo Houses Easier to Build

More than 1 billion people around the world lack decent shelter. The majority of them live in urban areas, usually in slums and informal settlements (UN-Habitat). Latin America has a serious shortage of adequate housing: in Colombia, 43 per cent of the population needs decent housing; in Brazil, it is 45 per cent; in Peru, 53 per cent.

The challenge is to provide good-quality homes without significantly harming the environment and with constrained budgets. Bamboo – cheap, strong, quickly renewable and beautiful to look at – is an ideal solution to replace traditional-wood lumber. In Bolivia, pioneering work is under way to improve the quality of homes and buildings made with bamboo.

Bamboo is the fastest-growing woody plant in the world, sometimes growing over 1 metre a day. Bolivia has about 17 identified bamboo species of which five have a significant economic value. Around the world, there are 1,000 species of bamboo. They grow in a wide variety of climates, from cold mountains to hot tropical regions.

The most popular species of bamboo used in South America is Guadua, which is known for being large, straight and attractive.

"In Bolivia, there is no other building material more competitive in costs," said **Jose Luis Reque Campero**, coordinator of the **Bolbambu Programme of the Architectural Research Institute, Universidad Mayor de San Simon, Bolivia.**

"Bamboo is the material that requires less energy, followed by wood and concrete, with steel in last place, needing energy for its production that is 50 times greater than that required by bamboo. But the biggest advantage is certainly the possibility of planting bamboo, and then reaping houses," he said.

Campero has focused his efforts on a key component of bamboo housing: the joints that bind the bamboo poles together. Driven by the desire to find ways to improve the ease of building bamboo homes and their strength, Campero came up with the **Bamboo Bolivia Space Structures, Structural System: EVO (BBSS-EVO)** (named after Bolivia's president, Evo Morales).
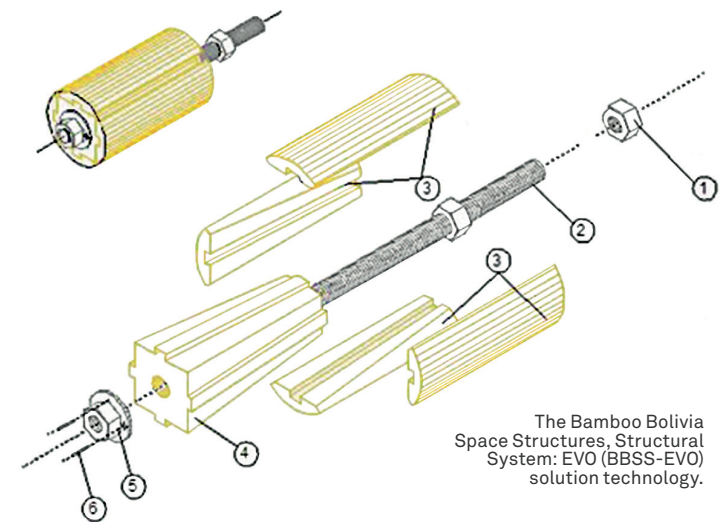
The Bamboo Bolivia Space Structures, Structural System: EVO (BBSS-EVO) solution technology.
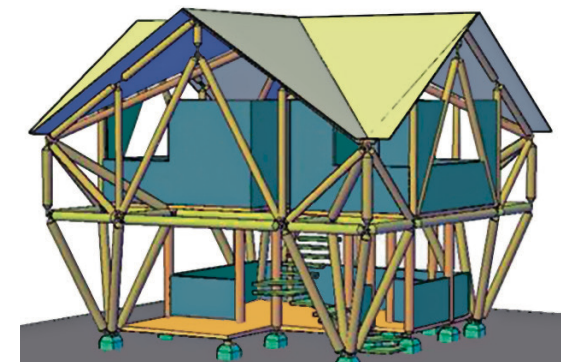
An example of the design flexibility offered by the BBSS-EVO joint.

Traditional joints took a long time to make and required power tools and complex instruction manuals. Simplifying the building techniques necessary for bamboo construction was important because, while bamboo was cheap, the labour costs were high.

The joint looks like a giant two-headed Q-Tip. Each end is made of four pieces of bamboo, connected by a long screw, with bolts on each end taken from old cars. The joint is inserted inside the bamboo poles and snaps shut, joining poles tightly together and, as each piece is assembled, looking like a child's building toy as the structure of the bamboo home takes shape.

The new joint was easier to assemble and was quickly adopted by local builders. It also allows for a vast range of structures and shapes to be built, limited only by imagination and physics. – (December 2008)

• www.umss.edu.bo

Rebuilding after Chinese Earthquake: Beautiful Bamboo Homes

The 12 May 2008 Sichuan earthquake in China killed more than 70,000 people. China's strongest earthquake for more than half a century, with a magnitude of 8.0, it devastated large parts of the Province of Sichuan. More than 10 million people were made homeless, most of them poor and elderly villagers (cities were not badly damaged).

Getting Sichuan back to normal is critical not only for the province's people but for all of China. Sichuan is China's rice bowl, growing more food than any other province. However, despite the abundance of food, Sichuan remains poor and has seen its working-age population move away for work. If it is to have a viable future, then its communities need to get back to normal as fast as possible – and its farming economy back to full production.

Finding ways to rehouse people after large disasters has become an urgent issue over the last five years. From the Asian tsunami to Hurricane Katrina in the United States and multiple hurricane disasters in the Caribbean, restoring communities is critical for the health of the people and the economies that they rely on. Experience has shown that temporary shelters have many drawbacks, being usually of poor quality for long-term habitation and a source of health problems.

The temporary shelters erected for the Sichuan homeless are unsuitable for long-term housing: the 12-square-metre grey boxes – two sheets of aluminium sandwiching a polystyrene core for insulation – have no heating. The occupants roast inside in the summer and freeze in the winter. The shelters are also located away from the main source of income: the farms.

The dilemma is how to build new, long-term houses that will not cost too much. Inflation has increased the costs of conventional building materials: bricks, cement and steel.

The use of traditional building materials and home designs offers an alternative, however. By drawing on the abundant bamboo and wood in Sichuan and working to traditional designs, cheaper but sturdy and beautiful homes can be built.

An average home now costs around 80,000 yuan (US$11,688). The Government of China estimates that the price is now 820 yuan per square metre for a new home: bamboo homes cost between 300 and 400 yuan per square metre. Government compensation is between 16,000 yuan (US$2,337) and 23,000 yuan (US$3,360) per family. The

After
One of the bamboo homes under construction.

Before
An example of a home damaged by the earthquake.

bamboo houses range in size from 75 to 200 metres and in cost from 22,500 yuan to 80,000 yuan for a very large home.

In Daping village, Pengzhou town, original homes destroyed by the earthquake sit at the edge of a forested hill. Their frames are more or less intact, but the walls and roofs have collapsed. New houses replacing them are large, with two stories and solid grey, clay tile roofs. The beauty of the designs stands out and sits in stark contrast to the temporary shelters and concrete buildings.

"There are 43 houses and two public buildings being rebuilt in this project," said team member **Hu Rong Rong** of the **Green Building Research Centre of Xi'an University of Architecture and Technology.** "The design and the main building material are based on the ecological and sustainable habitat idea. The place (Sichuan) is rich in bamboo and wood. These natural materials are cheap and friendly to the environment. In some buildings, we use light steel which can be also recycled." – (May 2009)

• www.xauat.edu.cn/en

Debt-free Homes for the Poor

About one third of the world's urban dwellers live in slums, and the United Nations estimates that the number of people living in such conditions will double by 2030 as a result of rapid urbanization in developing countries. Latin America is already the most urbanized region in the developing world.

"Throughout Latin America, you have economies that are growing and doing well, but the way that the economies are growing is actually generating more shanty towns," said Erik Vittrup, senior adviser on Latin America and the Caribbean for **UN-Habitat**. "It's a growth that is just generating wealth for those who (already) have it."

In Colombia, **Alejandro Salazar**, a chemical engineer, professor at the **Universidad del Valle** and innovator running several companies pioneering new building technologies using recycled waste, is building high-quality, inexpensive houses for the poor. By combining free building materials recovered from waste, a government grant and the voluntary labour of the homeowners, Salazar's company is able to build homes for the poor that don't leave them with ongoing bank debt from mortgages.

Based in Cali, Colombia, his companies, **Ecoingenieria** (product and material research and development), **Ecomat SA** (production of eco-materials using industrial waste and construction rubble), **Constructora Paez** (social housing construction using eco-products) and **Wassh SA** (environmental management and transformation of dangerous solid waste into non-dangerous materials), are focused on pioneering new technologies for housing.

"Our company uses two basic technologies," said Salazar: "the production of eco-materials from solid waste and demolition waste, and the implementation of an agile building system, which does not require skilled labour and is hand-transportable. All the pieces are produced in a prefabrication plant that uses the eco-materials."

Salazar has found a way to provide homes quicker than existing NGOs – **popular housing organizations (OPVs)**, as they are called – established to address homelessness in Colombia. The homeless poor are caught in a bind: they need to have a formal job to receive homebuilding assistance from the government, and they usually cannot save enough money for a down payment on the home.

Salazar's solution is to take the maximum grant given by the central government, which is US$4,730, and combine it with the recycled building materials and homeowners' own labour. He says that enables a house to be built for roughly half the price of one of a similar size that uses conventional materials: the eco-materials house costs around US$6,590 compared to US$12,000 using conventional materials. Land is often either donated by the municipality or the family already owns it. Also, in Salazar's experience, the whole family helps with the building: husbands, sons, brothers, fathers, wives.

The training takes just three days on eco-materials and a day on construction techniques for house-building.
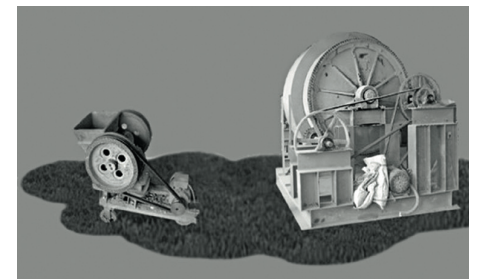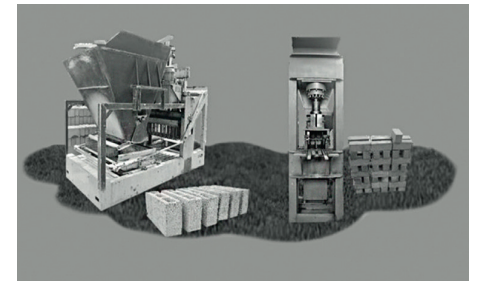
Machines transform waste into building materials.

"To date, we have built 306 houses with this method," said Salazar. "For the coming year, we expect to deliver around 500 houses or more. To build a house after acquiring the land, we need three people working eight hours a day to build it in four weeks – all under the supervision of a workforce teacher and the supervision of an engineer or architect."

The prefabricated building materials are made from recovered waste from a wide variety of sources: ceramic red brick, coarse ash and fly ash, slag from steel, copper slag, porcelain insulators used for electrical power lines, nickel slag, and sludge from sugar and alcohol plants and water treatment plants.

"The raw materials we use are industrial solid waste and demolition waste. It costs the industry a lot to throw away this waste," Salazar said.
– (January 2008)

• www.univalle.edu.co/english

A "super adobe" home under construction.

Decent and Affordable Housing for the Poor

Urban populations across the South are growing fast: by 2030, some 5 billion people around the world will live in cities.

How well people dwell is integral to their mental and physical health. Most squatters and slum dwellers – a category that includes half the urban population of Africa, a third in Asia and a fourth in Latin America and the Caribbean – live in makeshift homes made from whatever they can acquire. These dwellings are usually unsafe and vulnerable to fire, floods and earthquakes.

An architect has tackled the problem of how to create inexpensive but durable and beautiful homes for the poor. Iranian-born architect **Nader Khalili** has created what he calls "super adobe" dwellings inspired by traditional Iranian rural homes. The cone-shaped homes are made from sandbags piled one on top of the other in a circular pattern. A basic home is three rooms of 121 square metres and can be built by five people (with only one needing skills) within weeks. Being made of sandbags, the homes can easily be dismantled and moved or adapted to meet new spatial needs.

Khalili first fell in love with the sand adobe homes of the Islamic Republic of Iran in the 1970s. He had been on a journey to find a home design that was both environmentally harmonious and could be built anywhere in the world quickly and cheaply. While the original Iranian sand adobe is easily destroyed by earthquakes and bad weather, the "super adobes" are earthquake, hurricane and flood resistant. They are now being built across Africa, the Americas and Asia. – (January 2008)

• calearth.org

A woman helps with roof-building.

Kenyan Eco-village Built by Slum Dwellers

A Kenyan eco-village is helping slum dwellers to start new lives and increase their wealth. The community, **Kaputei**, is being built by former slum residents and is providing new homes with electricity, running water and services such as schools and parks. By building their own homes with the help of affordable mortgage loans, the residents are able to make a big upgrade to their quality of life.

Kaputei is a project of Kenya's largest and oldest micro-finance lender, **Jamii Bora**. – (June 2009)

• jamiibora.org

A model of the house kit.

House Kit for Slum Dwellers

Guatemala-born architect **Teddy Cruz** of San Diego, California's **Estudio Teddy Cruz** had noticed that while building supplies and materials were plentiful, nobody was selling safe and affordable housing frames for slum dwellers.

Cruz's solution was to design a simple kit for building the frames for a house or a business that he now sells in Mexico. Each customer receives a manual, a snap-in water tank, and 36 frames that can be assembled in many configurations or serve as a frame for poured concrete. – (July 2007)

• estudioteddycruz.com

Pioneering Chilean Eco-buildings

Across the global South, the search is on for new ways to build without extracting a high price from local environments.

In South America, a Chilean architecture company has pioneered innovative methods to build and deploy accommodation for tourists in an ecologically fragile area. The prefabricated wood cabins also use many energy-saving technologies as well as clever design tweaks to protect privacy when located close together.

Easter Island (Rapa Nui) sits 3,500 kilometres off the Chilean coast and is well known for its iconic, ancient giant stone statues, or moai. Around 3,791 people live on the island – one of the most isolated inhabited islands in the world – which is both a UNESCO World Heritage Site and a popular tourist destination.

Tourism is vital to the local economy and many people make their living from it. Enterprises making money from tourists range from dive shops and craft stores to restaurants and hotels.

The island has had a good connection between tourism and improvements in living conditions, with tangible improvements made since the increase in tourism in the 1960s. Clean water and electricity were provided and a hospital and a school have been built.

In the past few years, more flights from Peru and Chile have increased opportunities to visit the island and reduced the flying time. Tourist numbers in 2010 declined from 2009, however, and this has been attributed to ongoing conflicts between Chilean authorities and the indigenous Rapa Nui people over ancestral lands.

Here as elsewhere the challenge is to balance tourism with the fragile local environment. Any further expansion of tourism will need to sit lightly on the land and respect the rights of the Rapa Nui people.

The brief for the Morerava eco-cabins was to provide environmentally sensitive accommodation that uses few local resources. Built by Santiago-based Chilean architects of **AATA Associate Architects**, the cabins were prefabricated in a factory and shipped to the island during 2010. Having the cabins built on

The cabins at dusk.

the Chilean mainland avoided using up local vegetation and resources. Easter Island once was covered with a palm forest but over the centuries of human habitation, the forests were cut down and the island became almost barren.

The cabins are arranged around an elliptical courtyard reflecting the shape of the island's flag. They have an open-plan set-up and are long and narrow, with rooms arranged in a line from end to end. Nine cabins accommodate six people each. Cleverly, they are designed to retain privacy while being close together through a strategic use of window placement. On one side of the cabin, the windows are high, while they are at foot level on the opposite side. This prevents there being a direct line of sight into the next cabin while allowing plenty of light to stream in.

Propped up on stilts, the cabins hover over the moist grass floor to avoid damage from rot. The roof is sturdy and made from zinc steel.

They use little water and energy to function. Cross-ventilation airs the cabins and avoids mechanical systems such as energy-gobbling air conditioners. Electricity on the island is generated from petrol, which is expensive, so any means to avoid using it means big savings. – (February 2011)

• morerava.com
• aata.cl
• transoceanica.cl

Inside the bedroom.
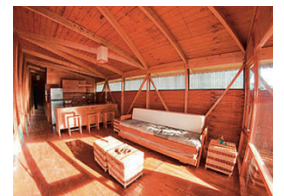
The living room and kitchen.

The terrace.

22

Images: Kaputei, Estudio Teddy Cruz and The California Institute of Earth Art and Architecture.

Images: AATA Associate Architects.

23

Energy-efficient Wooden Houses Are Also Earthquake Safe

In Argentina, an innovative housing project has married good design with energy efficiency, earthquake resilience and the use of local materials and labour.

The happy mix of efficient modern design with affordable local materials and labour can be seen in three row houses designed and built by Buenos Aires-based **Estudio BaBO** in the El Once neighbourhood in Villa La Angostura, Patagonia, southern Argentina.

The wooden houses are built in a Norwegian style. Estudio BaBO, founded in 2007, discovered that the Scandinavian country's housing traditions were well suited to the particular needs of the region and the local government.

The local government imposed a number of planning guidelines and restrictions that needed to be met to receive planning permission. This included creating row houses that had to be made of wood, a plentiful local resource, be earthquake-safe since the region is seismically active, and be able to withstand the heavy rains common to the region.

Looking around for the right guidance to tackle this brief, Estudio BaBO discovered **SINTEF**, Norway's leading disseminator of research-based knowledge to the construction industry. Norway has many wooden houses and environmental conditions and challenges similar to those of Patagonia, though its precipitation tends to fall as rain rather than snow.

The black-painted houses look typically Norwegian, with a tasteful and clean design that does not clash with the forested surroundings. An air chamber has been created inside the walls, allowing for constant ventilation of the wood, which prevents the wood from rotting and extends the life of the house. With the high rainfall in the region, wood is at risk of rotting if allowed to become damp. The air cavity also insulates the house, providing significant energy savings while keeping the interior warm and comfortable.

Adding to the energy efficiency of the design, the windows are double glazed and heat is circulated through the floor, an efficient way to heat a house because heat rises.

To keep costs down and the project simple, the palette used for the houses is simple but attractive: black, white, wood and metal. The local wood is cypress and is painted black. The interior walls are all white and the floors are made from black granite on the ground floor and cypress wood parquet on the upper floor.
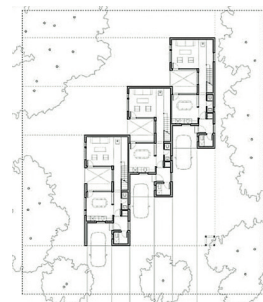

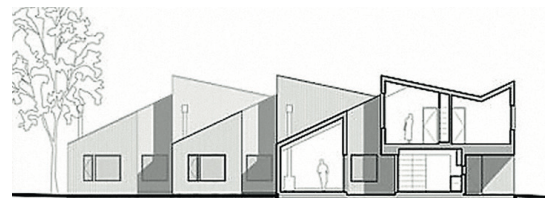The row houses.

The front of a house.

The staircase of a house.

Architectural floor plans.

The atrium with skylight.

Architectural renderings of the three houses.

"Despite the profusion of wood as a material in the south of Argentina, the lack of specialized knowledge and of a specialized industry narrows its uses to isolated structural elements and interior and exterior finishes," said one of the architects, **Marit Haugen Stabell**.
– (November 2012)

• estudiobabo.com.ar
• sintef.no/home/Building-and-Infrastructure

Cuba's Hurricane Recovery Solution

The Intergovernmental Panel on Climate Change says that extreme weather events will become more frequent, more widespread and/or more intense during the 21st century. Extreme weather is already costly for countries in the global South. The United Nations Environment Programme (UNEP) found that the cost of droughts, storm surges, hurricanes and floods reached a record US$210 billion in 2005.

The Caribbean island of Cuba was particularly affected by extreme weather in 2008 as the island was battered by two devastating hurricanes – Ike and Gustav – and a lesser one, Paloma. It is the only time that three major hurricanes have hit Cuba in the same season, with just a 10-day gap between Gustav and Ike. The hurricanes were described as the "worst ever" storms by Cuban officials.

The cost to Cuba has been high: damage from Ike and Gustav is estimated at more than US$5 billion.

Between 2001 and 2005, Cuba experienced seven major hurricanes. Half a million houses were damaged and 90,000 destroyed. In the 2008 storms, 619,981 homes were damaged and 70,409 destroyed, with 468,995 homes losing their roof tiles.

It is a common experience after a disaster in a developing country for all the resources to be spent on imported emergency shelter – tents, shacks, plastic sheeting – that then become permanent and inadequate homes. These makeshift dwellings provide poor security and shelter from the elements.

Cuba, however, has developed a pioneering way to quickly rebuild after disasters on a tight budget and using local resources. By using so-called eco-materials – construction materials that are ecologically and economically viable – the Cuban approach erect sturdy homes rather than just temporary shelters.

The Cuban approach calls for building permanent homes that can be expanded, teaches home-building skills and creates permanent employment in manufacturing building materials.

By developing technologies to manufacture building materials – bricks, concrete blocks, cement, roofing tiles, bamboo furniture – on site using local resources, the approach lets homeless people themselves rebuild sturdy, high-quality homes rather than waiting for outside building crews to come to do it or being dependent on expensive, imported building materials.

"This is all about going back to the roots: wood, concrete and bricks," said the passionate brains behind this approach, **Fernando Martirena**, a professor at the **Centre for Research and Development of Structures and Materials (CIDEM)** – at the **Universidad Central de Las Villas** in Santa Clara, Cuba.

IMAGES
1 Bricks are made on site.
2 A new house.
3 A mixer.
4 Bamboo being grown to make furniture.
5 The proud owner of a new house.

"The so-called free market has demonstrated it cannot tackle this problem of the urgent housing crisis in the world."
– (February 2009)

• ipcc.ch
• ecosur.org
• www.uclv.edu.cu/en

Being a Southern Innovator
An Urban Guide

In researching this issue of the magazine, we identified some common tips from other urban dwellers who have found a way to make a living and improve their lives.

Across the global South, cities are growing fast. Some cities are doing this in a very organized and planned way, but the experience for most people is far more chaotic and haphazard. In this issue's scenario, we lay out the steps to take for someone who has arrived in a fast-growing city and is staying with relatives until he/she obtains a steady income. Arriving in the sprawling suburbs, in a city with high rates of poverty, what will our innovator do? Currently sleeping on the floor of a makeshift shack owned by a relative, our innovator had left a depressing life in a rural home town many kilometres away. Dreaming of becoming a nurse and having a family, our innovator has life savings of US$100 to get his/her new life going. What should he/she do to get closer to his/her dreams in the big city?

1.

- What do I want to achieve?
- Why did I move to the city?
- How do people make money in this city?
- Where do I want to be in one year and two years?
- How will I earn an income and pay for a place to live and food to eat?
- What will I need to do to get closer to my dream?

Step 1
Having a plan

All plans need to be flexible and open to change but having a plan in your mind will make a big difference between success and disappointment and hardship. Ask these simple questions to clarify your goals.

Follow the steps on these pages to help better organize your life. New tools, such as mobile phones and "apps" (Step 2) can now be combined with other innovations. This includes the vast quantity of resources now available online through the Internet (Step 5) or tapping into the global solution-sharing revolution, where everyday problems – such as access to housing (Step 4), food, water and hygiene services - can be solved.
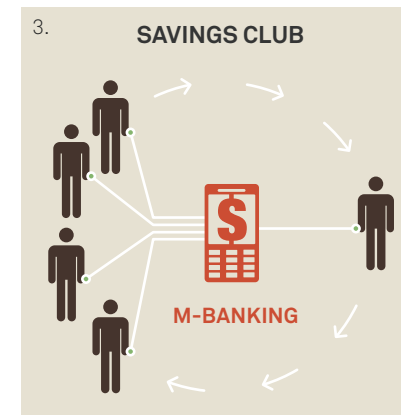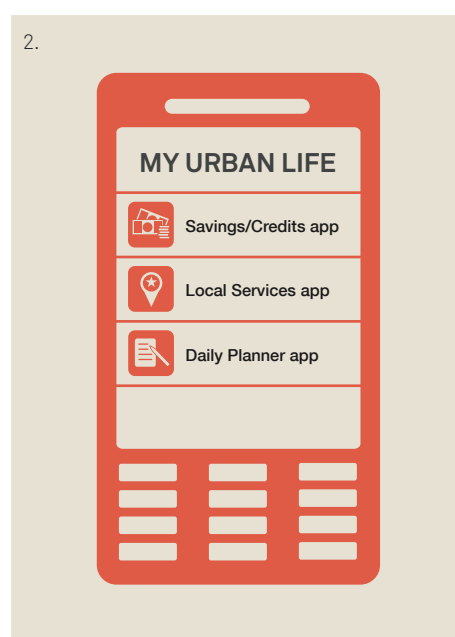
1. Making a plan.
2. Use a mobile phone to organize apps.

Step 2
Using a mobile phone

There is a new tool available across the global South: the mobile phone. This is not just a telephone but a small computer that is very powerful. Many services are now available through these mobile phones and these services can radically change your life chances even when your resources are very low. "Apps" or applications and services on mobile phones can help you to save, make payments, run your business activities or find work, take lessons, buy life insurance or pay for a funeral, do math calculations, help family far away to receive food packages or just make it easy to keep in touch.
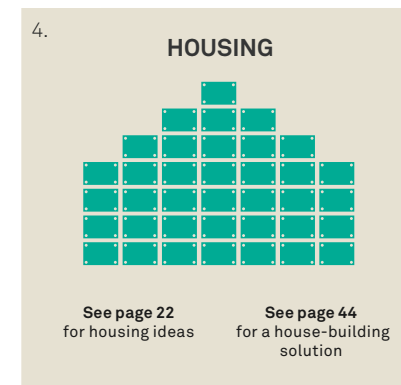
In short, the mobile phone is a tool that will make you more efficient, help you to build your wealth – an important part of getting out of poverty – plan your life and its activities, and stay in contact with your friends and family. Combine this with the opportunities available in a big city, and it is possible to quickly improve your life.

Innovative ways to afford a mobile phone include selling air or text time to passersby or charging people for access to app services such as maps. Or how about running a charging point with a solar-powered lantern?

2.

MY URBAN LIFE
- Savings/Credits app
- Local Services app
- Daily Planner app

3.
SAVINGS CLUB

M-BANKING

Step 3
Building wealth

To stand a chance at improving your life in a big city – and avoid being trapped in a desperate daily struggle to survive or exploited by others – you will need to find a way to build your wealth. Ways to do this exist for even the poorest people. Through mobile phones (see image 2), it is possible to store credits symbolizing money – or actual money – and send those credits to other people, or start a savings club (see image 3 for how it works). It is also possible to use the mobile phone to buy services or products, pay off debts and bills, and start a savings or bank account to begin the journey of growing your wealth through saving. As your savings are built up, you can then use them to improve your living conditions (see image 4 for housing ideas), buy clothes, pay for travel, deal with the unexpected such as paying for a family member's funeral, or use them to get smarter (see some ideas in image 5) by obtaining an educational qualification, buying a book or using Internet access to tap into online educational resources to get a better job.

4.
HOUSING

See page 22 for housing ideas

See page 44 for a house-building solution

5.
GETTING SMART

Online Free Education

Books

YouTube

3. Start a savings club.
4. Find a housing solution.
5. Get smart with books and online resources.
6. A flowchart helps to work out the steps to take.
7. Connecting with the city and a world of new opportunities.

Step 4
Becoming self-employed

A common source of frustration and disappointment for many new city dwellers is the pursuit of a job. Endlessly trying to find this job – often in competition with thousands of others, many with "contacts" and "connections" – can destroy a person's confidence and optimism. It can also be very time-consuming and may not help you to find a stable income. One of the most effective strategies for dealing with this situation is to think of yourself as "self-employed" (see image 6 for the steps to follow). It may sound daunting at first but it is a change in perspective that dramatically alters how you behave and view opportunities.

6.
BECOMING YOUR EMPLOYER:
- Work out what you like to do
- How can this match needs where you live?
- Develop a simple plan
- Get started!

RUNNING YOUR BUSINESS:
- Get a mobile phone
- Find a way to save your money
- Design your image and how you would like people to see you

Step 5
Meeting the city

Now that you have a mobile phone and have set up a way to save money or credits, it is time to get to work. City life is very different from rural life. Urban areas are densely populated and the pace of life is fast and can be very harsh. However, there are advantages to urban areas that start to become apparent, such as large airports, large educational institutions, universities, cultural institutions, extensive transport connections, better access to information and communication technologies, and a wide mix of jobs and opportunities. When these advantages are turned into your advantages, then you can start on the path to increasing your life chances and opportunities.

7.
MEETING THE CITY

The African continent is expected to have more than 300 million new inhabitants in cities in the next 20 years (World Bank).

Explanation

Urban growth is a challenge that is being met with a plethora of great ideas. Many pioneers and innovators are proving that it is possible not to be overwhelmed by the world's growing cities. They have placed human development at the centre of their actions and plans and have made sure that urban areas serve the needs of people and not the other way around.

Here are 10 interventions that can make a difference to planned and unplanned cities and urban areas as they quickly grow. Read on!

A PLANNED CITY
5 Interventions That Make a Difference

01 Eco-city: The concept of an "eco-city" was first systematically proposed by Richard Register in his 1987 book, *Ecocity Berkeley: Building Cities for a Healthy Future*. It was to be a place that minimizes the inputs of energy, water and food and outputs of waste heat, air pollution, CO_2, methane and water pollution. Eco-cities are still in the experimental phase and many cities and projects are taking shape around the world to discover what does and does not work.

02 Smart city: The connectivity brought about by the ubiquity of electronic devices such as mobile phones and the ever-expanding information networks connected by fibre-optic cables are giving rise to so-called "smart cities". These "smart cities" use information technologies to conserve resources and reduce waste while enabling cities to better serve the needs of their residents. Real-time information can be sifted to monitor everything from energy use to traffic congestion to crime, while constant connectivity enables the efficient delivery of a multitude of services to residents.
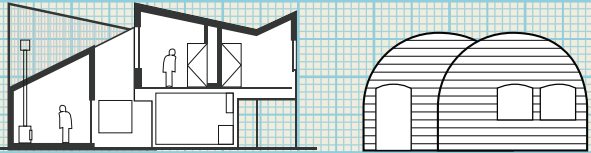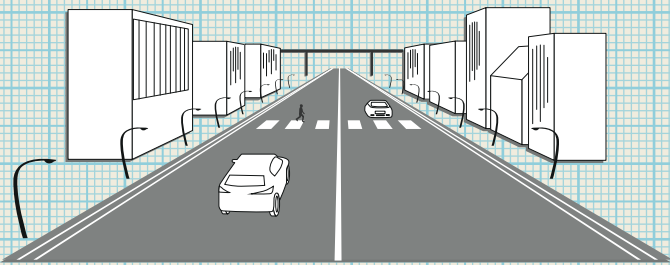
1100001101001000111
1010100000011101101

03 Disaster preparedness: Rather than hoping for the best, wise cities, planners and architects are placing disaster preparedness foremost in their designs. Cities built with earthquake-resistant dwellings and other buildings, for example, are better able to survive and rebound than those that do not place disaster resilience at the heart of their plans. Taking preparedness measures before disaster strikes can significantly improve survival rates and reduce the time that it takes for life to return to normal. With the earth's weather patterns being seriously disrupted by climate change, disaster-preparedness measures cannot be ignored by cities anywhere on the planet.

Building Code
Reconstruction Plan
Disaster Plan

04 Housing innovation: Changing perspectives on what constitutes a house and how to build one can pay off in smarter dwellings such as India's Tata Smart Value Homes (tatahousing.in/shubhgriha). Why waste resources heating a too-large house when a smaller, energy-efficient dwelling would make more sense? Or why build a house from scratch, with all the difficulties of finding skilled labour, ensuring the quality of the work and dealing with inclement weather on site. Why not just use a prefabricated house or modular housing systems such as that designed by architects of **Estudio Teddy Cruz** (estudioteddycruz.com) or the **Moladi** system in South Africa (moladi.net)?
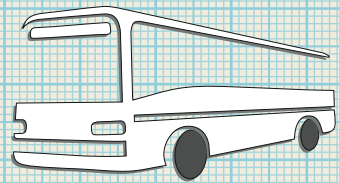
05 Public transport: In more established cities, access to public transport is often taken for granted, but foresight and planning are needed to ensure that any new urban area has public transport options in place for the new residents. There is nothing more frustrating than being stuck on a new housing estate many kilometres away from work or amenities. Public transport is not only an efficient way to move large numbers of people, but it is also a greener and cheaper form of transportation than private vehicles.

AN UNPLANNED CITY
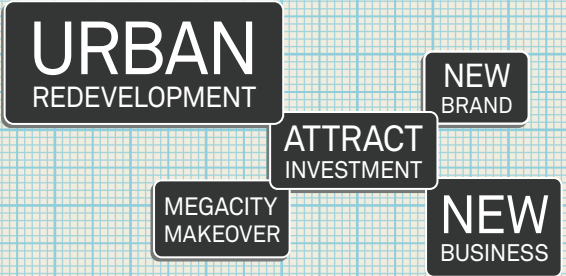### 5 Interventions That Make a Difference

01 Debt-free homes and land ownership: Innovators in the global South have been pioneering new ways to fund the construction of modern homes for the poor. One approach in Colombia uses donated land from the municipality combined with donated labour and recycled building materials to make sure that having a new house does not also mean having a great deal of personal debt. Others are finding ways to secure land rights for the poor and legal recognition of their right to own their dwelling.

My Own Land
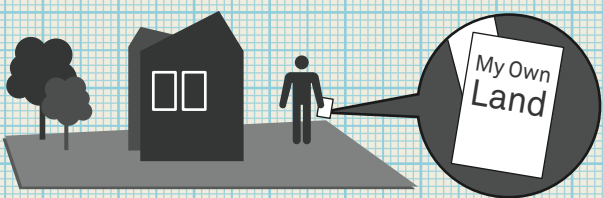
03 Proper sanitation, hygiene and water: The provision of toilets and hygiene services also makes a huge difference to human development and quality of life. A place to go to the toilet with access to clean water and bathing facilities quickly improves health and dignity and gives the poor the ability to avoid the stigmatization that comes from not being able to wash properly. In India, toilets are self-funded by capturing the methane biogas from the fermenting sewage and using it for cooking and heating. A clever solution!
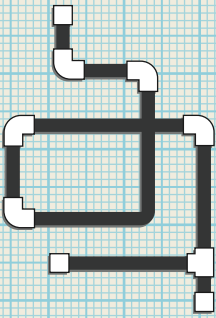
04 Urban redevelopment: It is possible to upgrade and improve an existing slum, as is being proven across the global South. By using new information technologies such as mobile phones and other devices, it is possible to develop accurate maps of a slum area, determine the number of its residents, quantify needs and then develop an intelligent plan to improve services and upgrade housing. With more than 50 per cent of the world's population now living in urban areas and cities of 10 million or more (UN-Habitat), urban redevelopment will be critical to improving living conditions. In Africa, city populations will more than triple over the next 40 years (UN-Habitat), an enormous challenge for countries and cities.

URBAN REDEVELOPMENT
NEW BRAND
ATTRACT INVESTMENT
MEGACITY MAKEOVER
NEW BUSINESS

02 Prevention of social exclusion: Social exclusion is a serious concern for any urban area experiencing rapid population growth. New communities can quickly turn into slums and their residents can be stigmatized by other urban dwellers. This can mean that they are shut out of better-quality jobs and opportunities and basic services bypass their homes. In Medellin, Colombia, an innovative and pioneering "slum escalator" – a giant outdoor escalator for residents of one of its poorest areas – is divided into six sections and ascends nearly 384 metres in the steep hillside district of Comuna 13, quickly connecting residents with the city centre.
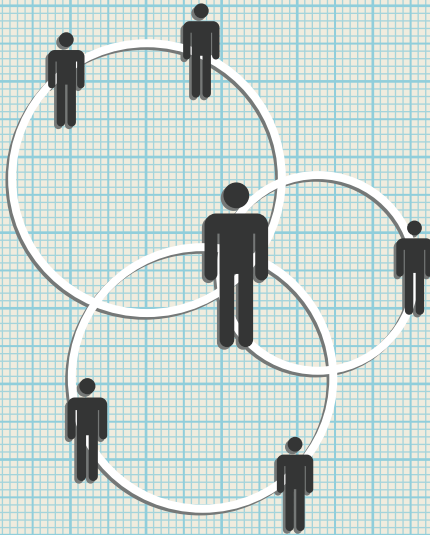
21st Century
Urban Environment

Definition – Urbanization: noun

"Urbanization" is the "increase in the proportion of a population living in urban areas" and the "process by which a large number of people become permanently concentrated in relatively small areas, forming cities."
Source: Glossary of Environment Statistics, United Nations Statistical Division

05 Culture, reading and gathering: Despite the many challenges across the global South, an appetite for learning is driving growth in media and publishing. New books, magazines and newspapers continue to pop up and feed this voracious appetite for knowledge. Book festivals have proven highly successful across the global South, exposing people to new thinking from near and far. Digital media and the Internet are fuelling growing access to domestic filmmaking, driving the growth of rivals to America's Hollywood, such as Nigeria's Nollywood and Kenya's Riverwood.

UNDP

Urbanization

Introduction

"Urbanization" is the "increase in the proportion of a population living in urban areas" and the "process by which a large number of people becomes permanently concentrated in relatively small areas, forming cities" (Glossary of Environment Statistics, United Nations Statistical Division).

Many millions of lives will be dramatically altered in the next decade as the urbanization trend continues in the global South. Living well in an urban environment requires a different way of life and culture.

If not handled well, urbanization can lead to even more polarizing social conditions, squalor and slums. Handled well, it can lead to rapid gains in human development and greater economic opportunity and richer lifestyles infused with culture and education. Much can be learned from how countries such as China are handling urbanization, and 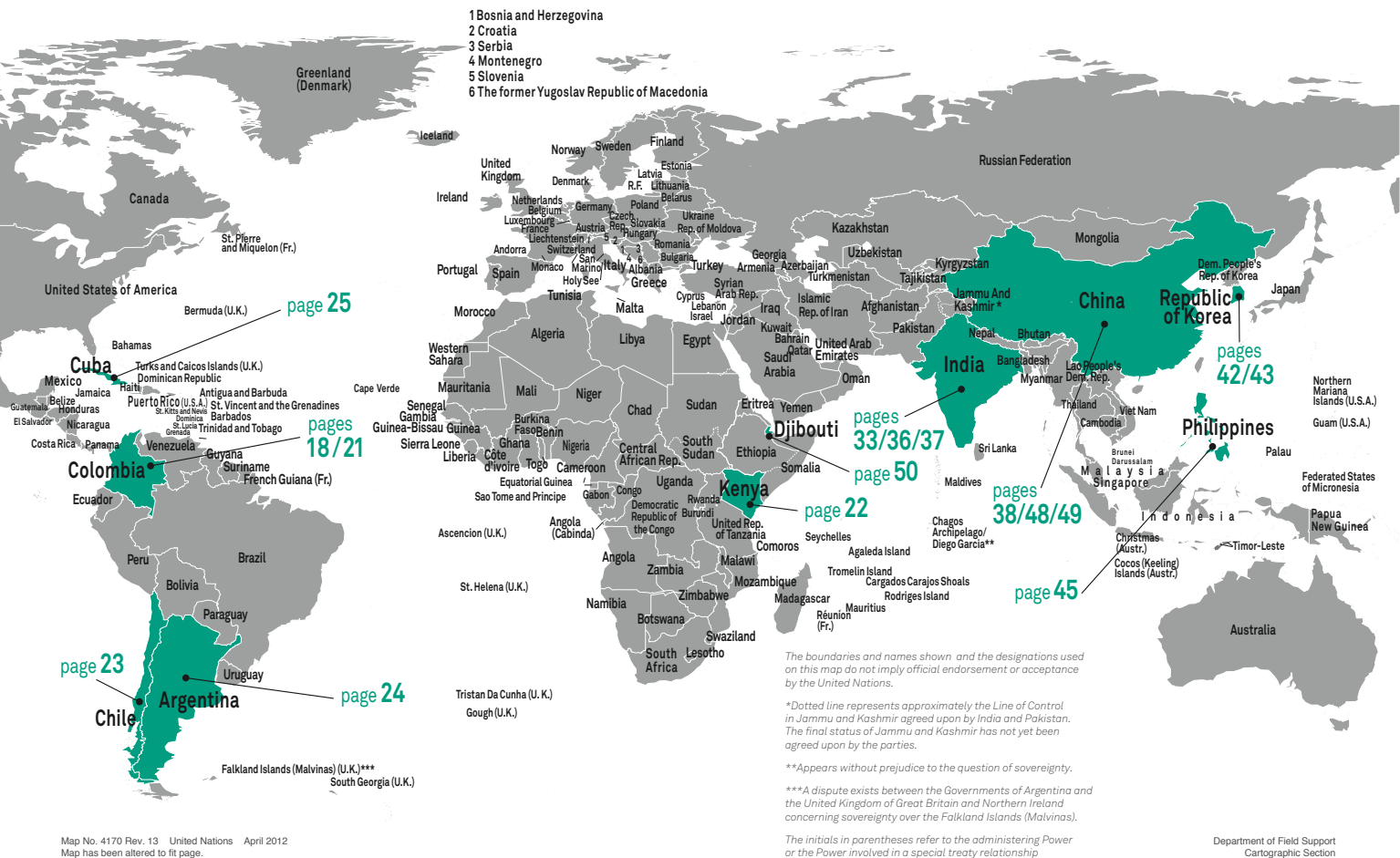elsewhere across the global South, there are many examples of how to handle rapid urbanization and avoid the mistakes of the past.

1 Bosnia and Herzegovina
2 Croatia
3 Serbia
4 Montenegro
5 Slovenia
6 The former Yugoslav Republic of Macedonia

The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

*Dotted line represents approximately the Line of Control in Jammu and Kashmir agreed upon by India and Pakistan. The final status of Jammu and Kashmir has not yet been agreed upon by the parties.

**Appears without prejudice to the question of sovereignty.

***A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

The initials in parentheses refer to the administering Power or the Power involved in a special treaty relationship

Map No. 4170 Rev. 13   United Nations   April 2012
Map has been altered to fit page.

Department of Field Support
Cartographic Section

New Journal Celebrates Vibrancy of Modern Africa

An entrepreneur and multimedia innovator has created a unique publication that is capturing the spirit, ideas and stories of modern Africa. A high-quality product that has gathered together talented writers and photographers, it is gaining a growing global audience.

Chimurenga Magazine (chimurenga.co.za) based in Cape Town, South Africa, calls itself a "pan African publication of writing, art and politics." Named for the Zimbabwean Shona word for "revolutionary struggle," it is published three times a year. Editor **Ntone Edjabe** is from Cameroon and came to Cape Town in the 1990s after the end of South Africa's apartheid regime.

With more than 100 contributors, the magazine offers insight into contemporary Africa, what occupies people's thoughts and how their lives are actually lived.
– (June 2012)
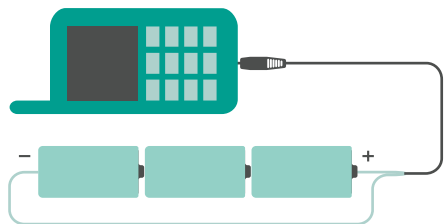
A "frugal" mobile phone charger.

Frugal Innovation Trend Meets Global South's Innovation Culture

There is a trend occurring across the global South that some are calling the next great wave of innovation. It has different names but many are dubbing it "frugal innovation". Frugal innovation is innovation done with limited resources and investment, in short, innovation for very little money but having a powerful effect.

In the global South, frugal innovation is transforming lives, and it is finding its way into developed, wealthy countries, too. It has been celebrated in the new book, *Jugaad Innovation: A Frugal and Flexible Approach to Innovation for the 21st Century* (jugaadinnovation.com) by **Navi Radjou, Jaideep Prabhu** and **Simone Ahuja**.

The authors propose "jugaad innovation" as a solution to the urgent need to innovate quickly and efficiently in a fast-changing world where little can be taken for granted. – (May 2012)

Highest urban growth rate on the planet: 300 million new inhabitants in cities **in the next 20 years** (World Bank).

Walking in Tianjin Eco-city, China.

Quick Facts

- Ten years ago, Mexico City was the most polluted place in the world, according to the UN, with vehicles responsible for half of the contamination. Since then, the Government has prioritized modes of transport aimed at reducing pollution and congestion. A new bus network with dedicated lanes and a bike-sharing scheme are gradually persuading Mexico City's citizens to leave the cars at home.

- Four of the world's existing megacities are in China, and by 2025, there will be three more.

- Chinese planners hope to merge nine cities in the delta from Guangzhou to Shenzhen to create a 25,750-square-kilometre urban area. Over the next six years, US$306 billion will be spent integrating transport, energy, water and telecommunications networks.

Sources: *The Guardian* and the UN

The Konza Technology City dream as seen by an artist.

East Africa to Get Its First Dedicated Technology City

An ambitious scheme is under way to create a vast technology city on the outskirts of Nairobi, Kenya.

One attempt to change things is **Konza Technology City** (konzacity.co.ke), a project that aims to build the infrastructure to host the companies of the 21st century for Kenya and East Africa. Konza Technology City joins a growing network of technology cities and parks across the global South. If the links between these centres of technological innovation and smart thinking can be strengthened, they have the potential to contribute to exceptional gains in human development. – (July 2012)

Q & A

After the 2008 Sichuan earthquake, which killed an estimated 70,000 people, teams were dispatched to help with the rebuilding of communities and with restoring normal life. One such initiative from the **Green Building Research Centre of Xi'an University of Architecture and Technology** in China helped to rebuild 43 houses and two public buildings. Team member **Hu Rong Rong** helped in the design and construction of earthquake-resistant bamboo homes.

SI Why choose to build bamboo houses?
The design and the main building material are based on the idea of the ecological and sustainable-habitat. The place (Sichuan) is rich in bamboo and wood. These natural materials are cheap and friendly to the environment. In some buildings, we use light steel, which can also be recycled.

SI Can this approach be replicated in other parts of Sichuan?
The design is suitable for other villages in Sichuan which have a climate and culture similar to those of this village. To rebuild sustainable houses after a disaster, we should know well the local life, environment and culture; try to find the useful technique which was used in their traditional houses; and upgrade the traditional house to meet the needs of their modern life.

Battery Business Brings Tanzanians Cheap Electricity

EGG-energy (egg-energy.com) is a Tanzanian company using an innovative business model to bring affordable electricity to rural communities.

Its co-founder, **Jamie Yang**, said that the United Republic of Tanzania has a huge potential market for off-grid energy services. About 85 per cent of the population lacks access to electricity, a figure that rises to 98 per cent of the rural population.
– (April 2012)

Images: Sino-Singapore Tianjin Eco-City and Konza Technology City.

The Sangliwadi Community Toilet built by India's Shelter Associates (shelter-associates.org).

Toilet Malls Make Going Better

Across the global South, clever entrepreneurs are transforming services that were bare bones, grim and out of date into modern facilities packed with features that help to pay for their operation. In Kenya, an entrepreneur has used this approach to transform the poor quality of public toilets.

Public sanitation is essential for good health and a high quality of life. Around the world, more than 2.6 billion people, or 41 per cent of the world's population, are without access to basic sanitation. As a result, most have to defecate or urinate wherever they can. In crowded urban areas, the result is an unpleasant source of disease and filth that fouls living spaces and sickens or kills many people.

Nairobi's slums are notorious for so-called "flying toilets" or "scud missiles": plastic bags filled with excrement that act as the only toilet available for many. Half the population also has no access to clean water. It has been estimated that these appalling conditions contribute to up to 50 per cent of health problems for slum dwellers.

The **Iko Toilet** started by **David Kuria** first came to life in Nairobi's central business district.

"What we saw in the last 10 years, the few public toilets that existed were in very poor shape," he told CNN. "In fact, they had been taken over by the street boys, and they were a point for mugging and drug trafficking. With that background, we needed some sort of social transformation for people to gain the confidence that you could have a public toilet which is clean, which is safe and which you can go in and come out of the same way."

The solution was "toilet malls", complete with a range of on-site micro-businesses to make going to the public toilet attractive. Apart from music and radio to listen to, there is a shoe shining service, snack bars selling fruit and water, and even banking services. The idea is that the micro-businesses pay for the upkeep and cleaning of the toilet, and their presence also keeps the toilets safe because there is always somebody around.

While the concept was pioneered in the business district, it is now moving out into Nairobi's slums. So far, Kuria has completed 12 toilets in Nairobi and has another 18 under development. He is also rolling out the toilets to other parts of the country. He receives the plots of land from local municipalities and his company, **Ecotact**, builds the toilets.It costs five Kenyan shillings (US$0.07) to use the toilets.

Kuria had become frustrated with the city council's inability to provide clean and safe public toilets. "I thought for some time before coming up with the idea," he told *The Nation*. "People had nowhere to go and thugs were holding them to ransom in the few facilities then run by the council."

The cost to build a toilet is Sh 2 million (US$26,000) and the toilet is managed by Kuria for five years. At the end of the contract, he will hand the toilets over to the local council.
– (August 2009)

- worldtoilet.org
- ecotact.org

Tiny Homes to Meet Global Housing Crisis

Artist's impression of Tata Value Homes.

The world's megacities – such as Mumbai, India, where more than 22 million people live in the metropolitan region – have to find a way to provide housing that is both affordable and does the minimum possible harm to the environment.

About one third of the world's urban dwellers live in slums, and the United Nations estimates that the number will double by 2030 as a result of rapid urbanization in developing countries.

The fast pace of growth of India's cities presents an enormous challenge: how to house so many people with dignity and at a good standard. India's city slums are notorious and recently became the subject of the Oscar-winning film, "Slumdog Millionaire".

With a population of 1.2 billion, India needs to find 25 million homes a year to meet current demand, according to the McKinsey Global Institute.

The concept of targeting those at the "bottom of the pyramid" (BOP) has drawn attention to the estimated 23 million poor urban dwellers in India, and 180 million rural families, who have savings and want to own a home. Monitor India believes that these people have annual earnings between US$1,400 and US$3,000.

Architect's floor plan.

The Indian manufacturing powerhouse **Tata** – which launched a BOP-focused car, the **Tata Nano** – has designed and is building **Nano Homes** (now called **Value Homes**), small apartments outside Mumbai for US$8,600. It also hopes to expand to other major Indian cities as well.

The Nano apartments are built on a modest scale: there are three sizes, with the smallest measuring 67 square metres. They consist of a single room that doubles as a bedroom by night, with a sink, bath and toilet behind a partition.

Criticisms include location – on the edge of major cities, where residents have to commute long distances to get to their jobs.

Even so, Nano apartments are so popular that buyers are being chosen by lottery.

"India's housing crisis lies in the fact that the poor in the cities are priced out of the market," Sundar Burra, an adviser to the Society for the Promotion of Area Resource Centre, a Mumbai-based housing rights organization, told Canada's *The Globe and Mail* newspaper.

"State supply of housing for the poor is woefully inadequate in relation to the need. Slums proliferate as a solution to this state of affairs."
– (November 2009)

An artist's impression of a community of Tata Value Homes.

- slumdogmillionairemovie.co.uk
- tatahousing.in/shubhgrihaboisar/home.php
- tmcity.in
- godrejproperties.com

Housing Innovation in South's Urban Areas

As urban populations around the South increase, the quality of city housing will be critical to the quality of life and sustainability of improvements to living standards.

Living in crowded and chaotic urban and semi-urban areas does not have to mean suffering poor-quality housing. A variety of Southern architects are showing how new perspectives on common problems such as cramped spaces, traffic noise, minimal green spaces and tight budgets can be addressed with clever thinking and new concepts.

The bustling and crowded Brazilian city of Sao Paulo has evolved in a chaotic fashion over the years. Sao Paulo suffers from the downside of rapid urban and semi-urban development familiar to cities across the South: traffic gridlock, pollution, noise. It is a toxic combination of factors that turns even simple tasks such as buying groceries into depressingly long, stressful ordeals.

One family house sitting a couple of hundred metres from the congested Avenida Brigadeiro Faria Lima, the city's unofficial main street, shows another way to live in the cacophony of the big city. The dwelling has been cleverly designed to make a peaceful oasis in the centre of this modern urban hurly burly. Designed by Brazilian architects at **Studio MK27** – and in keeping with the rich Brazilian modernist tradition pioneered by **Oscar Niemeyer** in the country's capital, Brasilia – the house uses clever techniques to create calm in the midst of chaos.

The front and back gardens are level with the living room, creating an enormous living space that seamlessly flows from indoors to outdoors. By using a large overhang over the gardens, the house can be lived in almost without walls, even on rainy days.

Furniture in the house draws on Brazilian designers such as **Sergio Rodrigues**. One of several innovative Brazilian firms, Studio MK27 was founded in the 1980s by **Marcio Kogan**. It has 12 architects from around the world collaborating on projects.

With a metropolitan population of around 20 million, Sao Paulo is the most populous city in the Americas and in the Southern hemisphere.

The house is made from raw concrete and a cheap but tough local wood called *cumaru*. By using inexpensive and low-maintenance materials, the house is able to weather the environmental stresses of a polluted, tropical city with harsh sunshine.
– (June 2010)

- dwell.com
- marciokogan.com.br
- sergiorodrigues.com.br
- usinactah.org.br
- worldhabitatawards.org
- djuhara.com/home.html
- iai.or.id

Interiors are by Studio MK27's Diana Radomysler and Carolina Castroviejo. All architecture is by Studio MK27's Marcio Kogan, Diana Radomysler and Oswaldo Pessano.

SI

New cities are emerging across the global South. Over the next 15 years the urban world's center of gravity will move farther south and east.
(*Foreign Policy* magazine)

In 2009, Africa's total population exceeded 1 billion, of which 395 million, almost 40 per cent, lived in urban areas (UN-Habitat).　　　Images: Reinaldo Coser and Gabriel Arantes.

Image: David South.

Help Is at Hand for India's Beleaguered Bus Riders

The website is a simple affair: a distinctive logo sits above a lean-looking booking system that enables users to enter the starting and ending destination and date of their journey and then click for available buses and prices. Its simplicity is deceptive: **redBus** is a smart technological solution to a very complicated problem in India: booking and buying a bus ticket. The service that it offers – relief from a chaotic, frustrating and time-consuming task – is transforming the experience of travel in India.

Based in India's technology hub of Bangalore, redBus is a web start-up begun by young whizzes from technology companies who decided to take a risk and venture out and do something new.

Back in 2005, redBus' three founders,

all graduates of one of India's top engineering schools, were working in Bangalore for well-known information technology companies such as IBM, Texas Instruments and Honeywell.

As they tell the story on their website, it was the difficulty of getting a bus home during the Hindu religious festival of Diwali that inspired them. The trip was a last-minute decision, and buying bus tickets proved far from easy. On top of failing to get a ticket from various travel agents, journeying around Bangalore meant encountering the city's traffic gridlock.

This experience led to the idea of developing a service to book bus tickets over the Internet.

RedBus quickly evolved into an innovative service offering multiple options to customers, who can call a phone number and speak to a customer service representative or use a mobile phone to book a ticket. Tickets are also delivered to customers in major cities in advance of their travel. Even more conveniently, redBus developed a service called mTicket, which sends the ticket by SMS (mobile phone text message) immediately when a customer makes a booking.

The mTicket appears on the display screen of the mobile phone and the customers just have to show their mTicket to the driver to board the bus. RedBus claims to have sold more than 8 million tickets to date.

RedBus uses partnerships to expand its distribution network, which means that redBus tickets can be purchased at more than 75,000 outlets. The company now works with more than 350 bus operators, enabling customers to book tickets on more than 4,500 routes across India.

The service set out to achieve two goals: create a one-stop shop for ticket purchases, and make it possible for customers to get tickets when they needed them and not be told that they have been sold out.

Indians were already having success with booking airline tickets online, but nobody else had thought of doing central, online sales for bus tickets before. Research was behind redBus' success. The founders interviewed bus operators, consumers and venture capitalists before setting up the business. – (April 2012)

• redbus.in

Woman Restaurant Entrepreneur Embraces Brand-driven Growth

The journey of **Zhang Lan** is the tale of an entrepreneur who exemplifies the story of globalization. She has gone from having many part-time jobs while studying overseas to becoming one of China's most successful food entrepreneurs.

Starting with a very small, humble restaurant specializing in spicy food from China's Sichuan Province, Zhang has cannily used branding innovation to grow her business and build her reputation in the food trade. Today the company she started, **South Beauty Group**, has 71 restaurants, most in major cities such as Beijing and Shanghai.

A series of bold moves focused on raising the profile of her restaurants and the South Beauty Group has paid off: the group was singled out by the China Hotel Association as one of the top 10 Chinese restaurant brands. By riding the country's breakneck growth and urbanization, her restaurant group has enjoyed double-digit growth in revenue and profits in recent years.

China's restaurant industry is booming and represents a significant opportunity: it is said that it will have revenue of 3.7 trillion yuan (US$590 billion) by 2015 (*China Daily*).

Zhang's mission is to revitalize the Chinese restaurant scene by introducing a more upscale, consistent dining experience.

"Most people in China don't know how to present food. I am happy that I have given some importance to the appearance of food," Zhang told the *China Daily* newspaper.

Her business mission is to take the group outside of China and become a global brand.

"Buoyed by the booming domestic high-end catering market, South Beauty Group is looking to be a major luxury brand in the global catering industry. It is not an easy task considering that there are different cultures and eating habits, but my experience has taught me that opportunities often come along with challenges," she told *China Daily*.

Zhang's business story started in a journey to Canada to pursue further education. To make ends meet, at one time she took on six part-time jobs, including washing dishes and food preparation.

A South Beauty restaurant under construction in Tianjin, China.

Working hard in restaurants and beauty shops earned her US$20,000 in savings within two years.

She returned to Beijing in the early 1990s, a time when the country was undergoing significant market reforms. She opened a small restaurant in Beijing in 1991 serving Sichuan cuisine. Dining out was still a new experience in a country that had spent decades under austere communism. She made her restaurant different by emphasizing cleanliness and unique flavours. She even used the design of the restaurant to set it apart: she gathered bamboo from Sichuan and used it to transform the restaurant into a little bamboo house.

This attention to detail paid off. By 2000, Zhang had been successful enough to give her the confidence to open her first South Beauty Restaurant in Beijing's China World Trade Center, a high-end office building in the Central Business District. It proved to be a great way to boost her business profile.

"It was a bold decision, as rents were high, but I knew the returns would also be high," she said.

In 2008, the restaurant won the bid to be food and beverage provider for the 2008 Beijing Olympics and was named official caterer to the 2010 Shanghai World Expo.

"These international events have given us great confidence in planning overseas expansion," Zhang said.

The hallmarks of the dining experience at a South Beauty Restaurant include dramatic food presentation, upscale décor, a pleasant dining atmosphere and, critically, wait staff who are informed about the food.

Dramatic food preparation includes cooking food at the table for the diners and serving stir-fried shrimp on a plate with a goldfish bowl filled with live fish.

"I want to change the cheap-price-and-bad-atmosphere tag that most Westerners have about Chinese food," Zhang told *China Daily*. – (November 2012)

• southbeauty.com

Bringing Cleaner Air to Asia's Cities

Clean Air Asia (CAA) is a partnership of more than 200 member organizations and eight country networks covering more than 1,000 Asian cities. Based in Manila, the Philippines, it promotes better air quality and more liveable cities by turning knowledge of the damage that polluted air is doing to human health and the environment into better policies and actions. It works on air quality and the impact of air pollution on climate change to reduce emissions of greenhouse gases in urban areas. It does this by promoting green fuels and vehicles as well as green freight and logistics.

With Asia experiencing rapid urbanization and more people driving vehicles, finding ways to reduce pollution in cities will be critical for future human health. At present, urban air pollution kills 800,000 people in Asia prematurely every year (CAA). With the scale of urbanization forecast for Asia in the next decade, many more will suffer the consequences of poor air quality if nothing is done.

CAA encourages more cycling and walking in cities to reduce the number of journeys that pollute. It actively encourages city authorities and planners to increase the walkability of Asian cities and to convert vehicles to less-polluting options, such as reducing the number of two-stroke engines and switching to e-bikes and other electricity-powered vehicles.

CAA recently launched its latest report to further this work, Accessing Asia: Air Pollution and Greenhouse Gas Emissions Indicators for Road Transport and Electricity.

WALKability

Walkability Scores out of 100

Walk at your own risk

Chennai	40
Surat	42
Indore	43
Bangalore	44
Jakarta	45
Katmandu	47
Karachi	48

Pedestrians tolerated

Bhubaneshawar	50
Rajkot	53
Pune	54
Male	56
Lanzhou	57
Hanoi	57
Colombo	58
Kota	59
Cebu	59
Ho Chi Minh City	60
Davao	60
Ulaanbataar	62
Metro Manila	64

www.walkabilityasia.org

If walking conditions do not improve, will you shift to other transport modes?

18.5% will not shift

68% will shift to motorized transport
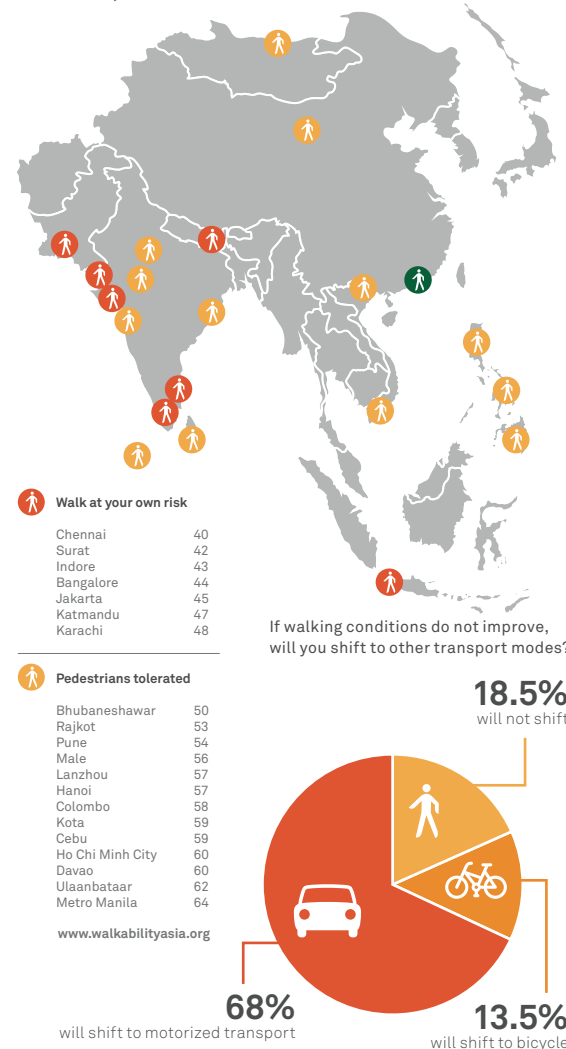
13.5% will shift to bicycle

Image Source: Clean Air Asia

Using Microfinance to Phase Out Two-stroke Engines

Clean Air Asia has successfully used a microfinance loan scheme to encourage drivers to switch from highly polluting two-stroke engines to less polluting four-stroke engines. Two-stroke engines are a favourite among drivers of three-wheel vehicles because of their durability and ease of repair and maintenance.

Unmaintained two- and three-wheel vehicles are the cause of substantial pollution levels in Philippine cities. The two-stroke engines that these vehicles use emit large quantities of hydrocarbons, carbon monoxide and particulate matter. They burn fuel inefficiently and use lubricating oil that heavily pollutes the air. The damage to human health in cities is significant.

Despite the Government of the Philippines ban on the importation of two-stroke-engine motorcycles, they remain popular.

Since 2009, the **Partnership for Clean Air**, a Clean Air Asia Country Network based in the Philippines, has been running pilot projects to encourage drivers to upgrade to cleaner vehicles.

A pilot scheme in San Fernando City in La Union Province reduced the share of two-stroke tricycles from 71 per cent of city traffic to 6 per cent between 2001 and 2007 through a combination of soft loans and an information campaign. In Mandaluyong City, Metro Manila, a replacement and scrappage scheme run since 2009, offered 20 operators an interest-free loan of about US$1,700 to purchase a four-stroke tricycle and hand in their old tricycle. Drivers pay back the loan from fuel savings realized through the use of the more efficient four-stroke tricycles.

People in 7 out of 10 cities in developing Asian countries breathe air that is dangerous to their health (Source: Clean Air Asia).

Chinese Building Solution for Rapidly Urbanizing Global South

A Chinese innovator and Internet sensation has developed a way to rapidly build high-density, high-rise structures that are also safe and meet strict earthquake-proofing standards. Building upward is an efficient way to get more use out of space and to free up land for uses such as parks.

Just as the first megacities such as New York began building skyscrapers a century ago, going upward will be the solution that many of the new megacities will choose as they feel the pressing twin demands of rising populations and financial restraints.

Based in Changsha, China, the **BROAD Group** has become an Internet sensation for posting videos of it rapidly building skyscrapers. It does this to show off its innovative technologies, which have significantly reduced the time that it takes to build high-rise buildings.

The company is a pioneer in making non-electric air conditioning equipment, energy systems and sustainable building technology.

Going high in Songdo, Republic of Korea.

BROAD has recently been expanding its product range and moving into constructing sustainable buildings. In particular, it is developing expertise in rapid construction techniques. This is important in the modern world as cities across the global South experience population growth and the pressing need to house people and create workplaces efficiently. BROAD is proud of the 15-storey hotel in Dongting Lake in Hunan Province that it built in just six days, which became a hit on YouTube. After this achievement, BROAD constructed a 30-storey hotel in 15 days.

Part of the BROAD Group, **Broad Sustainable Building (BSB)**, claims to make the "world's first factory-made building". BROAD says that its buildings are sustainable because they efficiently use recycled construction materials; rely on materials free of formaldehyde, lead, radiation and asbestos; and avoid "construction sewage" dust or waste.
– (October 2012)

- broad.com
- broad.com:8089/english
- youtube.com/watch?v=sjGhHl-W8Wg
- quake.mit.edu/~changli/wenchuan.html
- skycityone.wordpress.com
- burjkhalifa.ae

A Biodiversity Checklist for Urban Developers

1 Impact: Remember that the process of urbanization is the principal cause of biodiversity and habitat loss.

2 Understand the city's relationship with the countryside surrounding it – "All cities are located in the country". Cities depend on the countryside and vice versa.

3 Biodiversity and ecosystems are the most important factors that should be linking territories, cities and citizens. By managing these resources well, the sustainability of the territories, the quality of the cities and the well-being of the citizens will be secured.

4 Managing the biodiversity and ecosystem services requires an understanding that the relationship between generating information, knowledge, decisions, interventions, monitoring and feedback needs to be in a broad, diverse and permanent framework.

5 Recognize the differences between the territories, cities and citizens and their unique characteristics and dynamics.

6 Attempts at managing biodiversity and ecosystem services must recognize that the world is in a state of constant change and uncertainty.

7 In the context of comprehensive management, the relationship between biodiversity and cities is much more than the recuperation of native species, the declaration of protected areas and sustainable construction. It is the challenge of a new urban-rural landscape design.

8 Innovation applies to everything: infrastructure demands innovation in order to mitigate climate change, and governance demands innovation in the form of generating and disseminating scientific knowledge so that it is taken up by society and by stakeholders.

9 Vision: More than simply being a sustainable, urban country, we need to guarantee the resiliency of our ecosystems in order to be a better urban-rural country.

See Eco-cities Up Close pages 48-49

Image: David South.

Source: Alexander von Humboldt Research Institute on Biological Resources Policy Program, Research line: Biodiversity, Ecosystem Services and Urban-Regional Environments

South Gets Reading Bug with More Festivals

There is no better indicator of significant economic progress than the rise of book festivals across the South. These symbols of intellectually curious and globally aware middle classes are also boosting economies and contributing to a bigger, more sophisticated creative economy – something that will drive future growth across many sectors.

Doing a reading at the Jaipur Literature Festival.

According to **Sanjoy Roy**, managing director of New Delhi-based festival producer **Teamwork Productions**, producers of the popular Jaipur Literature Festival, "India's rising economic growth has ensured that the great middle class is happy to travel and to spend."

"More and more Indians are taking to tourism both local and international. India's large middle-aged upper-middle-class and wealthy sector feeds occasions like the literature festival, ensuring attendance, making it a word-of-mouth, must-be-seen, must-attend occasion on the social-season calendar."

Recognition of the importance of this trend can be seen in the recent growth in book festivals associated with the **Hay Festival** based in Hay-on-Wye, Wales. There are now Hay festivals in Beirut, Lebanon; Bogota and Cartagena, Colombia; Zacatecas, Mexico; Nairobi, Kenya; the Maldives; and the Indian State of Kerala.

Roy also confirms the economic impact of book festivals. He produces India's **Jaipur Literature Festival**, which attracted over 32,000 visitors this year. The hard numbers show the economic impact of the event: "Approximately 3,000 room nights were booked by visitors during this period at an average of US$100 per night," Roy said. "Our own spend in Jaipur during this period was approximately US$500,000. Shopping, meals and transport spend I would peg at between US$200,000 and US$300,000."

With the rise of the creative sector, significant innovation will come from the global South, according to the director of the Hay Festival, **Peter Florence**.

"The digital revolution will be absolutely essential to developing countries," he told the Associated Press. "They are going to skip two levels of publishing-industry tradition. The mobile phone is more important for writers in those societies than pen and paper. That is a very interesting continuation of oral culture. At the same time that the West has decided to start moving from audio editions to digital downloads, oral culture is just moving straight into digital culture in many places around the world."
– (June 2010)

- teamworkfilms.com
- hayfestival.com
- jaipurliteraturefestival.org

Book Boom Rides Growing Economies and Cities

Along with growing economies, the global South is seeing growing numbers of readers and a newly flourishing publishing industry. The creative economy – of which book publishing is part – is experiencing a jolt from a combination of expanding economies and urbanizing cities.

Telling stories about local conditions and people's rapidly changing lives is proving a commercial success formula. Fast-growing India is forecast to become the largest market for English language books within a decade. India's economic boom, which saw 6.7 per cent growth in 2009, and its expanding middle class are driving demand for books. India saw the number of literate people pass 66 per cent by 2007.

"It is a forward-looking generation," said **Manish Singh**, country manager for publisher Harlequin Mills and Boon, to The Guardian newspaper.

Estimates of India's book-reading market put the number of readers at just 5 million out of a population of over 1 billion. But according to **Anantha Padmanabhan**, the director of sales in India for publisher Penguin, "That is set to increase dramatically".

A survey by Tehelka found Indians are favouring stories about local conditions and set in the places where they live.
– (May 2010)

- rupapublications.com/Client/home.aspx

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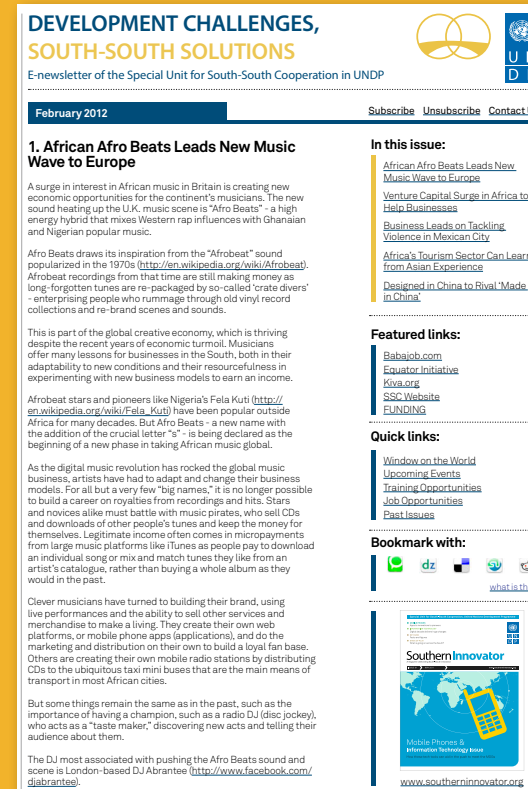
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ℹ 3.4 per cent: Africa's urban growth rate, the fastest in the world (UN-Habitat).

Image: Teamwork Productions.

Smart Cities Up Close

The explosion in information technologies in the past decade has re-shaped the way that cities can be planned, run and developed. The connectivity brought about by now-ubiquitous electronic devices such as mobile phones and the ever-expanding information networks connected by fibre optic cables are giving rise to so-called "smart cities". These "smart cities" draw on information technologies to use resources more efficiently and reduce waste while, it is hoped, enabling cities to better serve the needs of their residents. Real-time information can be gleaned to monitor energy use, or traffic congestion, or crime, while constant online connectivity enables the efficient delivery of a multitude of services to residents. Smart cities vary in their scope and ambition. Some are existing urban areas given a modern upgrade, while others, such as the **Songdo International Business District (IBD)** smart city in the Republic of Korea, are planned and built from scratch.

Built on 1,500 acres (607 hectares) of reclaimed land from the Yellow Sea in Incheon, Republic of Korea, Songdo International Business District (IBD) is being built by Gale International and POSCO E&C of the Republic of Korea. It is considered one of the largest public/private real estate ventures in the world. To be completed in 2017, it will be home to 65,000 people (22,000 currently live there), while 300,000 people will commute daily to work there. Fifteen years in the making and costing over US$35 billion, it is called a "synergistic city" because it contains all the elements necessary for people to live a high-quality life.

Southern Innovator visited the Songdo IBD smart city to see how it was progressing and to unearth its innovations and offerings for innovators.

The Master Plan

Currently 50 per cent complete, Songdo IBD is considered one of Asia's largest green developments and a world leader in meeting Leadership in Energy and Environmental Design (LEED) standards for green buildings. For example, it has the first LEED-certified hotel in the Republic of Korea (Sheraton Incheon). These high green standards have led to the United Nations Green Climate Fund Secretariat establishing its headquarters in Songdo, with the opening slated for 2013.

Songdo is "smart" because information technology connects all its systems: residences, buildings, offices, schools, hospitals, hospitality and retail outlets are all connected. This includes more than 10,000 Cisco TelePresence units – menu-driven video screens in apartments – being installed in the residences to connect them to all the services available in Songdo.

It also benefits from proximity to Incheon International Airport – consistently voted one of the best in the world – giving residents quick access to other Asian cities such as Shanghai, Tokyo and Hong Kong. This connection between urban development and a highly connected airport is being called an "aerotropolis".

INNOVATIONS

1 — People-friendly

Songdo IBD is designed to be people-friendly, with multiple transport options built into the city's construction. These include not only sidewalks but also dedicated bicycle lanes, water taxis on canals, and subway and bus connections to the country's capital, Seoul, and Incheon International Airport. Importantly for pedestrians and residents, all services, workplaces and residences are designed to be within a short walking distance so that nobody is more than 15 minutes from a service such as a shop or restaurant. Green spaces – taking inspiration from New York's Central Park – are also key to making life liveable in Songdo IBD, which has 40 per cent of its area allocated to green space.

2 — Buried services

As much as possible, utility services such as garbage removal and key infrastructure have been placed underground so as to not be disruptive to life on the surface. Gone are the days of smelly garbage trucks plying the streets to remove refuse. Songdo has the world's largest pneumatic waste collection system, which sucks garbage away from dwellings by a vacuum system. The majority of parking is underground or in parking garages, freeing up room for other uses such as green space.

3 — Total connectivity

What makes Songdo IBD a "smart city" is its use of information technologies to maximize the efficiency of a host of services through real-time data and analysis. Overall energy use in Songdo IBD is reduced by up to 40 per cent by using insulation and high-performance glass in buildings and connected information technology to manage the lighting, heating and air conditioning. Data are shared and advanced sensors monitor energy use. This includes Cisco's Green Aware system, which tries to change user behaviour by giving consumers real-time information on their energy usage.

Interview

On the 63rd floor of the First World Building – a tower surrounded by a forest of other tall buildings and the long, straight roads criss-crossing Songdo – **Scott Summers**, Vice-President of Foreign Investment for developer **Gale International Korea, LLC**, explains why Songdo is different.

"The beauty is you are doing everything from scratch; you are using newer building technology, newer systems.

"You are not going into a city and ripping up old things and then putting in new systems. You have a greater opportunity to install this technology, the backbone (information technology from Cisco), to allow these services and connectivity to work properly because you are laying wires in buildings from the get-go rather than going in afterwards."

Summers believes that it is the high-tech component of Songdo that will set it apart from other cities in the future. Songdo is being built with a combination of innovative sustainable development technologies and the latest in information technologies – the backbone – provided by Cisco.

"That is one of the reasons we are pushing this technology, because it is how a city operates that is important.

"The operation of a city, to do it well, is going to improve the success of it. [To] embed into the development of the city some of the technologies of sustainable development – to put in the pneumatic waste system, grey water system, the co-generation – all of those things are much easier to do on raw land."

Sojeong Sylvia Sohn, owner of Songdo's Kyu, a Korean fusion cuisine restaurant, is banking on Songdo's future growth.

Sohn said Seoul's "existing commercial area was just saturated."

"Songdo International City in Incheon is the future for the region and early business tenants are coming here for investment purposes. It has uncluttered streets and modern buildings, being an international city; this makes it attractive."

Green spaces and parks are spread throughout the smart city.

Walking is easy in the smart city.

Bicycle paths are built into the infrastructure.

Building high frees up space.

- songdoibd.com
- cisco.com/en/US/products/ps7060/index.html
- new.usgbc.org/leed

42

43

Where will most of the world's new cities be? China (*Foreign Policy* magazine).

Images: David South.

Housing Solution for World's Growing Urban Population

In South Africa, one company believes that it has the right technology for an age of rapid urban population growth and the need for quick and safe housing construction.

The **Moladi** building system developed in 1986 by South African injection mould maker **Hennie Botes** consists of moulded plastic panels, looking like the panels found in children's construction toys, that are screwed together and assembled as a frame for the building. With the frame in place, a concrete mortar mix is poured in and left to dry, taking between 12 and 15 hours, depending on local conditions. When dry, the plastic mould is removed and a fully built house is the result. Because of the use of moulds, the house walls are smooth and even and the resulting dwelling is tidy to look at.

Moladi doesn't require professional builders to assemble the frames, and the technique has been tested for strength and for resistance to earthquakes and hurricanes. Since it was developed specifically for the poor, this building method draws on what is called "sweat equity": often the only asset poor persons have to contribute to the cost of building a home is their free labour.

Because the dimensions of the house were already established when the plastic frames were moulded, common on-site mistakes are avoided.

Moladi benefits from South Africa's Black Economic Empowerment programme and is certified for its quality with the South African Bureau of Standards (SABS). Moladi contractors and developers are working in 15 countries and the technique is distributed in a further seven countries.

The Moladi construction technique was born of frustration with the traditional approach of laying one brick on top of another. This traditional construction method, dating back thousands of years, simply does not match the needs of our times. It is slow and requires highly skilled bricklayers to be done right. Across the developing world, it is possible to see poorly constructed brick dwellings – often built unevenly with poor-quality mortar holding the bricks together – that are unsafe in an earthquake.

Training in the Moladi technique takes from one to two weeks for unskilled workers, depending on the size of the house. Moladi provides handbooks and all the necessary resources to complete the project. Each project has its own custom-built plastic frames based on the design of the house.

"There is no flat fee for on-site training; the client is only responsible for covering the travel and living expenses for the Moladi representative or training foreman," said Hennie Botes.

The Moladi mould system.

The ideal size for a project is 15 houses. By building a large number of houses, the individual cost comes down and savings increase.

The system "can be reused 50 times, which means that the more Moladi houses you build, the more economical it becomes," Botes said. "Compared with the exorbitant cost of traditional construction methods and when current market values are considered, the cost savings of building with the Moladi technology are achieved from the first application."

The essence of the Moladi system is breaking down the construction process into simple, replicable steps. It is inspired by the American pioneer of mass production, car maker Henry Ford, who achieved efficiency and low costs in production by simplifying production into standardized, modulated steps.

"The Moladi construction process should be viewed as a work-flow process similar to that of a vehicle assembly line," Botes said. "Through the simplification, standardization, modularization and industrialization of the construction process, efficiency and cost savings are achieved and maintained by managing the continuous flow process on site.

"Contractors must make sure that they have planned their project roll-out and budget well and have clearly defined goals as to what they want to achieve. It is very important to have all team players and professionals on the same page with regard to their roles and responsibilities."

South Africa is facing a population growth rate of 1.73 per cent a year (UNICEF). It also has 61 per cent of the urban population trying to live on 4 per cent of the land, according to Botes. This urban population is growing at 2.7 per cent a year, yet existing housing needs are not being met. There is already a backlog of 2.2 million houses that need to be built, and this number grows by 180,000 every year, according to the Banking Association of South Africa.
– (February 2010)

- moladi.com
- sabs.co.za

The architect's vision for the Estero de San Miguel slum in Manila.

Philippine Architect Wants to Transform Slum with New Plan

One of the Philippines' leading architects and urban planners, **Felino A. Palafox Jr.** of **Palafox Associates,** is passionate about remaking the slums in his country's capital, Manila. The city is prone to devastating and sometimes deadly flooding. Palafox believes that the vulnerability of slum dwellings and poor urban planning are placing lives at risk.

Manila is a city of stark and startling contrasts: there are glitzy shopping malls and high-rise office buildings but also large slums and hungry people begging and selling trinkets on the city's roads. It is a place where the slum clearance-vs-renovation debate is hot and current. The Philippines is presently in the midst of a campaign to clear slums in Manila and move people back to the countryside. Palafox has a different vision: rebuilding a slum community from top to bottom.

An architect, environmental planner, urban planner and development consultant, Palafox runs one of the top architecture firms in the Philippines, employing more than 100 staff and consultants.

Usually occupied with office buildings in the go-go new business centres of the Middle East and Asia, Palafox has turned his attention to Estero de San Miguel, a Manila slum that is home to some 1,200 families, or 6,000 people.

Families are packed into tiny rooms in a labyrinthine slum complex beside a canal. The rooms are made of wood and floored with linoleum and have to be accessed through a narrow tunnel and tight connecting corridors.

The polluted canal will be transformed into a pleasant place to walk.

An overhead view of Manila.

Palafox's plan is to work with the residents and rebuild the slum complex in its current location. In place of makeshift shacks will come modular homes, 10 square metres in size, with space for shops and bicycle parking.
– (September 2011)

- palafoxassociates.com
- unhabitat.org/pmss/listItemDetails.aspx?publicationID=1156

Number of cities with a population over 1 million in China by 2025: 221 (*Foreign Policy* magazine).

Image: Moladi.

Images: Palafox Associates.

Indian City Slum Areas Become Newly Desirable Places to Live

With India's urban economy experiencing rapid growth, its slums – once seen as the most undesirable places to live in the country, if not on Earth – are attracting the attention of affluent residents and developers in India's rapidly expanding cities. The prosperity in India's cities has made these areas' proximity to business and entertainment zones highly desirable. In turn, this has led to slum dwellers either upgrading their homes and in the process boosting their value or being offered the opportunity to sell their rudimentary dwellings to real estate agents and property developers.

For some, this could be a great leap forward in income and opportunity; for others, it could mean exploitation and hard choices, weighing the cash boost against moving out of the slum area. How to best handle slum areas in urban and peri-urban communities will be a major challenge for most countries of the South as they continue to become urbanized.

Children take a lesson in basic hygiene.

India's phenomenal economic growth rate – forecast to be 7.9 per cent in 2011 by the Asian Development Bank, after averaging 7.7 per cent per year over the past decade – has been the force behind an expanding middle-class population, now estimated at 50 million (McKinsey). Forecasts see it swelling from 5 per cent of India's population to 40 per cent by 2025.

With 30 per cent of the population living in urban areas and cities contributing 60 per cent of the country's GDP and 90 per cent of government revenues (*Wall Street Journal*), the fate of city dwellers is critical to the functioning of the economy.

According to the 2001 Indian census, slums make up 25 per cent of all housing and 26 per cent of urban households lack access to sanitation facilities.

Shelter Associates, an Indian NGO, uses architects, planners and social workers to help the urban poor in informal settlements and slums to improve their living conditions. This includes health, hygiene and sanitation promotion like with this group of children learning the importance of hand washing for good health.

But **Indu Prakash Vaidya**, a 32-year-old housewife, is part of a new trend in India's city slums. Vaidya lives in a small shanty house in Mumbai with no running water, no sewage services and a jerry-rigged electrical connection.

Vaidya's home is just a single room for the five people in her family. They sleep on the cement floor and the "kitchen" is a two-burner gas stove. The dwelling is so poorly constructed that they have to move around inside the room when it rains to avoid being soaked.

But her humble home has been valued at US$24,000 by people looking to buy it.

According to real estate agent **Hari Ram**, the average price of a 91-square-metre shanty home in Mumbai is now US$46,000.

"Shanties as small as 120 square feet… are as expensive as US$93,000," **Dinesh Prabhu**, a construction company owner, told NDTV television.

"All I can say is, given the current real-estate rates, those slums are invaluable," said **Sharad Mahajan** of the Pune-based non-profit organization, **Mashal**. Mashal focuses on the problem of urban shelter and implements housing projects. It has been working in the Dharavi slum area with the Maharashtra government on its redevelopment. The slum is well-known for its representation in the film, "Slumdog Millionaire", and the area is next to the Bandra-Kurla Complex business district of Mumbai. Mashal has been mapping the area, home to 60,000 families, to make sure that the redevelopment is fair to the families living there. – (December 2011)

• shelter-associates.org

Electric Bicycles Become Urban Transport Success

A money-saving way to get about has emerged in China: the electric bicycle. It seems an excellent solution to the travel needs of people in fast-growing metropolises. The bikes are good at navigating traffic gridlock, and since they are electric, they do not emit air pollution, a big problem in many cities.

An e-bike in Beijing, China.

With urban populations ballooning across the South and the world now a majority urban place, the challenge of moving people around economically and cleanly is a big issue. While turning to cars seems an appealing option for people who have increased their incomes, the resulting traffic jams and pollution are a major drawback. Gridlock is a daily reality in cities across Asia and Africa.

In the capital, Beijing, rapid economic development and rising incomes have led to serious traffic congestion. There are over 4 million cars on Beijing's roads. The pollution in the city is very bad and has led to various campaigns to ban high-polluting vehicles.

The ensuing traffic gridlock means the

benefits of having a private vehicle – the freedom to get around on your own – are eroded as a driver wastes time in long commutes. So, many have turned to the nimble electric bicycles.

The success of e-bikes in China is striking: it is estimated that there are four times more electric bikes than cars in the country, 120 million in all. According to the **Electric Bikes** website, the number of electric bicycles produced each year has grown from 200,000 in 2002, to 22 million in 2008. It is estimated to be a US$11 billion-a-year business, a true Southern success story that is going around the world.

A typical electric bicycle has a rechargeable power pack, with a battery that takes up to four hours to charge and

lasts from an hour to two hours depending on local conditions, such as hills. The batteries can range from heavy lead acid models (around only 100 charges) to nickel metal to lightweight, long-lasting lithium batteries. The batteries range from 12 volts to 36 volts. How long a battery lasts depends on its energy retention ability, road and temperature conditions, and the rider's weight.

One Beijing resident, **David Dai**, told the BBC: "It takes only 10 minutes to ride my electric bike from home to work."
– (April 2010)

• electricbikee.com

Two-stroke Engine Pollution Solution

In the Philippines, auto rickshaw drivers are pioneering specially adapted two-stroke engines that reduce particulate emissions by 70 per cent and carbon dioxide emissions by 76 per cent.

Tim Bauer, the 31-year-old American mechanical engineer who developed the technology, said auto rickshaws "play an essential role in the social and economic fabric. But their impact on public health is disastrous."

Two-stroke engines are highly inefficient users of fuel: up to 40 per cent of the fuel and oil go out of the exhaust pipe unburned. This exhaust is packed with oxides of carbon, nitrogen, sulphur, hydrocarbons and fine dust – all toxic contributors to air pollution.

Using off-the-shelf components, Bauer developed a kit that turns two-stroke engines into fuel-injection machines. This adjustment reduced particulate emissions by 70 per cent and carbon dioxide emissions by 76 per cent. He now sells the kits through **Envirofit**, a non-profit organization. It has been pilot tested at two Philippine holiday resorts, Vigan and Puerto Princesa. – (December 2008)

• who.org
• envirofit.org

46

40 per cent of the people in Dhaka, Bangladesh, are considered to be slum dwellers (BRAC Bangladesh).

Images: Shelter Associates.

Image: David South.

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Eco-cities Up Close

A joint initiative between China and Singapore, the **Sino-Singapore Tianjin Eco-city** project, located on reclaimed land some 45 kilometres from the booming Chinese city of Tianjin and 150 kilometres from Beijing, is an attempt to create a replicable model for other cities in China and the global South. Already well under way, with the first phase of construction nearly complete, the Eco-city's hallmarks include encouraging walking, reduced reliance on private vehicles and a push to generate 20 per cent of the city's energy from renewable sources. It is run from the Chinese side by **Tianjin TEDA Investment Holding Co., Ltd** and in Singapore by the **Keppel Group**.

It is located 10 kilometres from the **Tianjin Economic Technological Development Area (TEDA)**, a fast-growing high-tech business hub in its own right.

Called an "integrated work, live, play and learn environment," it is a mix of public and private housing based on the highly successful model developed in Singapore.

The concept of an "eco city" was first proposed by **Richard Register** in his 1987 book, ***Ecocity Berkeley: Building Cities for a Healthy Future***. It was to be a place that minimizes the inputs of energy, water and food and outputs of waste heat, air pollution, CO_2, methane and water pollution. Like smart cities, eco-cities are taking shape in various forms around the world. Some are applying the concept and principles of an eco-city to an existing place, while others are being built from scratch.

Southern Innovator visited the Tianjin Eco-city to see how it was progressing and to discover its innovations and offerings for innovators.

The Master Plan
The city is a mix of elements designed to make it sustainable in the long term. It includes an "eco-valley" running through the development as its centrepiece green space to encourage walking and cycling while connecting all the major centres of the city. It has the usual services expected in a city – from schools to shops and restaurants – but also, critically, a growing range of business parks to support employment. There is an "eco-industrial park", the Hua Qiang 3D Movie Park, the National Animation Industrial Park and an eco-business park. The idea is to encourage businesses working in the creative economy, research and development and the green economy to establish themselves in the Tianjin Eco-city rather than businesses that pollute excessively and use large amounts of energy. To date, 700 companies have shown interest in being located in the Tianjin Eco-city. It is hoped that the city will become a centre for technologies in environmental protection, resource conservation, emission reduction, green building and the recycling economy.

INNOVATIONS

1 — Good design

One of the biggest innovations of the Tianjin Eco-city is its clever planning from the beginning. Seeking to keep the city affordable and in line with the cost of living in China, the city makes use of planning tweaks that produce significant savings in energy use. This includes aligning buildings to make use of sunlight, capturing wind to power air conditioning systems, and situating all buildings – residential, workplace and services – within comfortable walking or cycling distance to reduce commuting times and energy expended. All buildings meet the Green Building Evaluation Standard (GBES) developed by experts from China and Singapore.

2 — Green transport

Electric buses join a light rail transit system and trams as part of a comprehensive public transport system for the city. The 12-kilometre eco-valley running through the centre of the city connects all areas of the city for walkers and cyclists.

**3 — Repurposing wasteland and recycling waste**

The city is built on reclaimed wasteland and does not use valuable arable land. Residents are encouraged to incorporate waste recycling into their daily habits. Everyday kitchen waste will either be used for fertilizer or turned into methane gas to generate electricity. Renewable energy is generated through solar photovoltaics, solar water heating, ground source heat pumps and wind turbines, many of which are lining the main road through the city. Street lights are also powered by solar panels.

An innovative waste disposal system.

Charging station for electric buses.
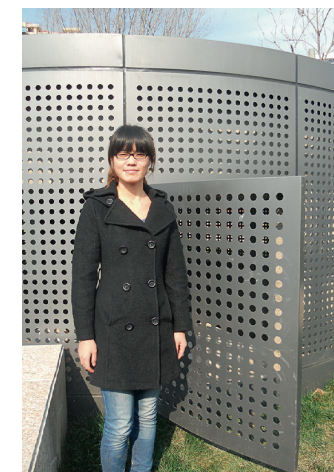
A researcher in the eco-city works on wind-driven air conditioning systems.

Solar panels stretch for 6 kilometres to help power the city.

Interview
Ho Tong Yen, Chief Executive Officer of Sino-Singapore Tianjin Eco-city, says its aim is "sustainable development packaged in a way that is uniquely Asian."

He says the project is intended to be "practical, replicable and scalable."

"Practical at its core is building something that the market can support, something that is affordable given the economic development of the region. The idea is that this model must be one that is replicable and scalable in other parts of China. Now, strictly speaking, there is no reason it needs to be just for China; it really might be replicable in other developing countries as well. Our starting point, however, is to find a model that might work for China.

"Just three years ago this place was nothing, just barren ground."

"I think it is still a work in progress – a bold experiment – and it is a long-term experiment. The idea is to create an eco-city that can support a population of 350,000 over a 10-to-15-year horizon.

"An eco-city is not necessarily a science-fiction-like concept; it is something that is very real, very doable. It looks a lot like a normal city; it is not a special city in a glass dome."

Africa's Fast-growing Cities:
A New Frontier of Opportunities

According to a report by the International Institute for Environment and Development, Africa now has a larger urban population than North America and 25 of the world's fastest-growing big cities. Europe's share of the world's 100 largest cities has fallen to under 10 per cent in the past century.

Counter to common misperceptions about what is luring people to big cities, the report's author, **David Satterthwaite**, said that it is not because governments and aid are attracting them. Government "policies leave much to be desired as they tend to neglect the urban poor, leading to high levels of urban poverty, overcrowding in slums and serious health problems. Governments should see urbanization as an important part of a stronger economy and their expanding urban population as an asset, not as a problem."

But global perceptions of Africa are changing. **The Mo Ibrahim Foundation** has listed the most efficiently run African economies, with a strong correlation between good governance and higher growth rates: Botswana, Ghana, Mauritius, Namibia, Senegal, Seychelles and South Africa.

In most of urban francophone West Africa, extensive interviews with micro-entrepreneurs and microfinance practitioners found that most operating micro-enterprises in the informal economy are entrepreneurs by necessity and that their most basic needs drove their business activities and behaviours. Success was held back by lack of capital, poor training and a general aversion to risk (Faculty of Management, Dalhousie University).

While access to capital has been identified as the key factor in opportunity, African entrepreneurs are not even waiting for microfinance institutions to help them. "I started this business of selling chips (French fries) two years ago using money we raised as a group of 30 women," said **Mary Mwihaki**, 27, who lives in the Mathare slum area outside Nairobi.

Each member of her group of women contributes about US$30 cents a day and the resulting US$9 is given to a different member of the group on a rotating basis, she told the IRIN news agency. Mwihaki waited three months to raise the US$27 that she needed. She joins many other women across the country taking the same approach to raising capital.

For some entrepreneurs, it is just the proximity to a buzzing urban atmosphere that is a spur to action. One clothes seller told the *African Executive* that he has been able to make enough money to have a house built just selling second-hand clothing. Twenty-three-year-old **Henry Mutunga** in Nairobi,

One of the many stylish gentlemen of Congo Brazzaville.

The book, *Gentlemen of Bacongo,* profiled the vibrant and highly influential African fashion scene in Congo Brazzaville, Central Africa. It joins a wider "Afropolitan" scene that is both African and urban on the continent.

Kenya, takes advantage of the high turnover of the city's Machakos Country bus terminal to sell clothes.

"After months of searching for a job, I asked myself, 'Why am I wasting the business studies knowledge I acquired in school?' I was not comfortable being left in the house every morning, with nothing to do, while my uncle went to work in order to feed me and pay the house rent. I got hooked to the urban mentality and tried my hand at selling trousers."

With two employees, he is able to rent his own house, and is able to use extra money to have his own house built. He urges other youth to become employers, not employees. Other entrepreneurs are piggy-backing their success on the booming housing markets in Algeria, Angola, Botswana, Congo, Côte d'Ivoire, Egypt, Ghana, Kenya, Liberia, Mali, Mauritius, Morocco, Mozambique, Nigeria, Rwanda, Senegal, Tunisia and Uganda, all creating enormous opportunities for entrepreneurs providing other services, such as furniture, appliances, insurance, landscaping, security and architecture. – (November 2007)

• iied.org
• moibrahimfoundation.org

Southern Innovator
KNOWLEDGE SUMMARY

Issue 4 of **Southern Innovator** joins a growing stable of off- and online resources capturing unique knowledge on Southern innovation.

5 E-newsletter
Published every month since 2006, the *Development Challenges, South-South Solutions* e-newsletter has chronicled the many changes in the global South from the rise of mobile phones to the move to cities and urban areas to the proliferation of innovative solutions.

1 Cities

The **Southern Innovator website archive** presents by theme the back catalogue of stories from the *Development Challenges, South-South Solutions* e-newsletter. It also joins an extensive range of resources offered on the web portal of the United Nations Office for South-South Cooperation in UNDP (ssc.undp.org).

4

3

Southern Innovator Issue 3
Southern Innovator's third issue profiled pioneers and innovators in agribusiness and food security. It was launched in September 2012 and the print version was distributed around the world by the United Nations Office for South-South Cooperation in UNDP.

2 Urbanization

Southern Innovator #4 Available Now!

MONEY, MONEY
- Where to Get It

AWARDS

Saïd Global Entrepreneur Challenge: SGEC is a global business-plan challenge hosted by the University of Oxford's Saïd Business School. It is more than just a competition; based on the quality of an initial one-page business plan, applicants will receive mentorship and guidance from the University of Oxford's business students and alumni to help to grow the ideas into practical, 10-page business plans. These business plans will be entered into a final competition where winners will be selected from six global regions. **Website:** www.sbs.ox.ac.uk/centers/entrepreneurship/programmes/Pages/YouthBusinessDevelopment.aspx

InnoCentive: InnoCentive is a challenge to the world's inventors to find solutions to real scientific and technological problems affecting the poor and vulnerable. It is an open marketplace where anybody with a problem can post it, and rewards for effective solutions stretch up to US$100,000. It uses rigorous intellectual property protection so that ideas are not used without credit being given to the inventor. **Website:** innocentive.com

Grand Challenges Canada: A grand challenge is a specific critical barrier that, if removed, would help to solve an important health problem in the developing world, with a high likelihood of global impact through widespread implementation. Grand Challenges Canada awards funding to innovative solutions to five challenges. **Website:** grandchallenges.ca

The Pioneers of Prosperity Grant and Award: This competition is a partnership between the OTF Group and the John F. Templeton Foundation of the United States. It promotes companies in East Africa by identifying local role models that act as examples of sustainable businesses in their country/region. It is open to businesses from Burundi, Kenya, Rwanda, the United Republic of Tanzania and Uganda. Five pioneers will receive US$50,000 to reinvest in their businesses. It is open to for-profit businesses that provide high wages to their workers and that operate in sustainable ways. **Website:** pioneersofprosperity.org/index.php

BUSINESS SUPPORT

West Africa Trade Hub: The Hub works with people to improve transport, access to finance, the business environment and ICT to make West African businesses more competitive. **Website:** watradehub.com

ExportHelp – Promoting and supporting access to the European market: The European Commission runs a database for the explicit support of market players in developing countries who want to bring their products to the European Union market. The database gives an overview of the EU's preferential trade regimes established for developing countries and lists all tariffs, taxes and other requirements for goods imported into the EU. **Website:** exporthelp.europa.eu

African Diaspora Skills Database: This database was compiled to provide an overview of qualified African diaspora professionals with varied areas of expertise and experience. The African diaspora contributes substantially to the social, economic and political development of Africa, and this database is set up to further mobilize this considerable potential. **Website:** diaspora-center.org

Development Executive Group Devex Networking: Over 90,000 global experts can network and connect and learn about more than 47,000 registered projects. **Website:** devex.org

African Economic Outlook: A unique online tool that puts rigorous economic data, information and research on Africa at your fingertips. A few clicks give access to comprehensive analyses of African economies, placed in their social and political contexts. This is the only place where African countries are examined using a common analytical framework, enabling users to compare economic prospects at the regional, subregional and country levels. **Website:** africaneconomicoutlook.org/en

GRANTS

Google.org: While small and medium-sized enterprises (SMEs) in rich countries represent half of GDP, they are largely absent from the formal economies of developing countries. Today, there are trillions of investment dollars chasing returns, and SMEs are a potentially high-impact, high-return investment. However, only a trickle of this capital currently reaches SMEs in developing countries. Google.org's goal is to increase this flow. It wants to show that SMEs can be profitable investments and do this by focusing on lowering transaction costs, deepening capital markets to increase liquidity and catalysing capital for investment. **Website:** google.org

Echoing Green: Social Entrepreneurs Fund: To accelerate social change, Echoing Green invests in and supports outstanding emerging social entrepreneurs to launch new organizations that deliver bold, high-impact solutions. Through a two-year fellowship programme, it helps its network of visionaries to develop new solutions to society's most difficult problems. To date, Echoing Green has invested nearly US$30 million in seed funding to almost 500 social entrepreneurs and their innovative organizations. **Website:** echoinggreen.org

Bill & Melinda Gates Foundation: Guided by the belief that every life has equal value, the Bill & Melinda Gates Foundation works to help all people lead healthy, productive lives. In developing countries, it focuses on improving people's health and giving people the chance to lift themselves out of hunger and extreme poverty. The Foundation disburses grants to people in more than 100 countries. **Website:** gatesfoundation.org

Skoll Foundation: Skoll is one of the leading foundations in the field of social entrepreneurship. Over the past 10 years, it has awarded more than US$250 million, including investments in 85 social entrepreneurs and 70 organizations on five continents around the world who are creating a brighter future for underserved communities. In addition to grant-making, it funds a US$20 million plus portfolio of programme-related and mission-aligned investments. **Website:** skollfoundation.org

Rockefeller Foundation: The Rockefeller Foundation supports work that expands opportunity and strengthens resilience to social, economic, health and environmental challenges to promote the well-being of humanity. **Website:** rockefellerfoundation.org

Landesa: Landesa helps millions of families receive assistance in gaining legal control over their land. Landesa works mainly in China and India and sub-Saharan Africa. Land rights are a great spur to wealth creation and give families a stake in growing local economies. **Website:** landesa.org

INVESTMENT FUNDS

African Agricultural Land Fund: The Fund has raised almost €2 billion from an American pension fund to invest in African agriculture. The African Agricultural Land Fund, created by the United Kingdom-based hedge fund, Emergent Asset Management, wants to raise a total of €3 billion and is canvassing a range of investors. It plans to invest in agricultural land and livestock, including African game, which will be sold on to private reserves and safari parks. The Fund also plans to develop biofuel crops on marginal land, saving prime agricultural acreage for crops to feed people. **Website:** emergentasset.com/?func=Page

Aureos Africa Fund: Small and medium-sized enterprises across Africa are set to benefit from a multimillion-dollar investment fund set up by private equity firm Aureos Capital with the Commonwealth Secretariat's assistance. The Aureos Africa Fund will provide long-term capital and support for promising and successful businesses across the continent. **Website:** aureos.com

MICRO-LENDERS

Kiva: A non-profit organization with a mission to connect people through lending to alleviate poverty. Leveraging the Internet and a worldwide network of microfinance institutions, Kiva lets individuals lend as little as US$25 to help to create opportunity around the world. **Website:** kiva.org

United Prosperity: People can select the entrepreneur to support. Each US$1 contributed acts as collateral or a loan guarantee with a bank. Based on the guarantee, the bank makes a loan of nearly US$2 to the entrepreneur through a partner microfinance institution (MFI). Once a guarantee has been made, the entrepreneur's progress can be tracked online. On loan repayment, you receive your money and can choose to recycle it by guaranteeing the loan to another entrepreneur. **Website:** Unitedprosperity.org

Grameen Foundation: Grameen Foundation helps the world's poorest, especially women, improve their lives and escape from poverty by providing them with access to loans, essential information and viable business opportunities. Through two of the most effective tools known – small loans and the mobile phone – they work to make a real difference in the lives of those who have been left behind: poor people, especially those living on less than US$1.25 per day. **Website:** grameenfoundation.org

SOCIAL FUNDING AND PATIENT CAPITAL

Acumen Fund: Its mission is to create a world beyond poverty by investing in social enterprises, emerging leaders and breakthrough ideas. **Website:** acumenfund.org

Omidyar Network: A philanthropic investment firm. It creates opportunities to improve lives by investing in market-based efforts that catalyse economic, social and political change. **Website:** Omidyar.com

Ashoka: Innovators for the Public: Ashoka provides a wide range of services and funding for social entrepreneurs and now has over 2,000 Fellows in over 60 countries on five continents. **Website:** ashoka.org

Africa Entrepreneurship Platform: This groundbreaking initiative is created as a forum to showcase innovative ideas and businesses from Africa that have the ability to scale up internationally, driving job creation and sustainable economic development between Africa and the Americas. **Website:** sacca.biz

TOOLKITS AND BUSINESS ADVICE

SME Toolkit Kenya.
Website: kenya.smetoolkit.org/kenya/en

HSBC Knowledge Center: News and know-how for your business.
Website: knowledge.hsbc.co.uk

HSBC Business TV website.
Website: businesstv.hsbc.co.uk

SME Toolkit: Build Your Business.
Website: smetoolkit.org/smetoolkit/en

Branding Strategy Insider: Small businesses looking to develop their brand can find plenty of free advice and resources here.
Website: brandingstrategyinsider.com

Brandchannel: The world's only online exchange about branding, packed with resources, debates and contacts to help businesses to intelligently build their brand.
Website: brandchannel.com

Just Food: A web portal full of the latest news on the global food industry and packed with events and special briefings to fill entrepreneurs in on the difficult issues and constantly shifting market demands.
Website: just-food.com

Dutch Design in Development: DDiD will help Southern entrepreneurs and small enterprises to develop their brand and design identity and production processes by using experienced Dutch designers.
Website: ddid.nl/english/index.html

Making Cents International: Making Cents' curricula are effective tools for creating, strengthening and supporting current and future entrepreneurs and delivering financial literacy for all. In over 25 languages, Making Cents offers a range of classroom materials to training institutions, schools and after-school programmes that strengthen the quality and impact of their business and entrepreneurship training and advisory services.
Website: makingcents.com/products_services/curriculum.php

VENTURE CAPITAL

ClearlySo: ClearlySo connects social business, enterprise, commerce and investment. Its goal is to grow the social economy and help social entrepreneurs to raise capital and improve their core business skills. It helps investors to find exciting opportunities and introduce corporations to the social sector.
Website: clearlyso.com

The Social Venture Forum: The Social Venture Forum was started with the objective of informing, inspiring and encouraging actions in favour of harmonious development through Social Venture in China. In addition to the portal, the Social Venture Forum aims to be a monthly event in Beijing. It gives a broad range of people, such as entrepreneurs, NGOs, researchers, investors, institutions, representatives and the press, an opportunity for networking in an ethical environment to meet, exchange ideas and build projects together.
Website: socialventureforum.com

The resources listed here are for information purposes only and do not indicate an endorsement. When seeking funding, do the research and ask questions. If something sounds too good to be true, it probably is.

Quotables and Notables

01 "He was lazy and he happened to say, 'Why doesn't somebody invent something that you can just put on your skin and you don't have to bathe?'." **Ludwick Marishane**, of Headboy Industries Inc. (headboy.org) and a 22-year-old student at the University of Cape Town, told Reuters that the idea for DryBath – a waterless bathing solution – came to him when he was a teenager living in his rural home. It was wintertime and his friend didn't want to bother washing because there was no hot water available.

02 "In my understanding, urban growth is not haphazard or poorly planned in 'developing' countries. Rather, I think that urban 'planning' or lack of planning is done with a goal of generating more benefits for powerful interests and fewer benefits for poor people." **Charlotte Mathivet**, Co-editor of *Cities for All: Proposals and Experiences towards the Right to the City*, Habitat International Coalition, Santiago, Chile (hic-net.org).

03 "There are 43 houses and two public buildings being rebuilt in this project. The design and the main building material are based on the ecological and sustainable habitat idea. The place (Sichuan) is rich in bamboo and wood. These natural materials are cheap and friendly to the environment. In some buildings, we use light steel, which can also be recycled." **Hu Rong Rong** of the Green Building Research Centre of Xi'an University of Architecture and Technology.

04 "We look forward to the opening up of cross-border trade as our findings suggest that the liberalization and facilitation of the cross-border trade initiative will increase demand for all products and services from South Africa to neighbouring countries. South Africa offers an extensive range of products compared to the choice of products that are offered in many of the neighbouring countries." **Suzana Moreira** of moWoza (mowoza.com) – "mo" stands for "mobile" and *"woza"* is a Zulu word meaning "running" – which sells a range of products including basic foodstuffs to a target market of cross-border migrants in Southern Africa.

05 "We require radical rethinking about urban development. It is not that there are no ideas. It is that there is no implementation of those ideas," **K.T. Ravindran**, a professor of urban development, told *The New York Times*.

06 "Many of our people are no longer interested in agriculture, so we need to give them incentives to go back. If we had to re-house the slum dwellers inside Manila in medium-rise housing, it would cost a third of the national budget," **Cecilia Alba**, head of the national Housing and Urban Development Co-ordinating Council, told the *New Statesman* magazine.

07 "All I can say is, given the current real-estate rates, those slums are invaluable," said **Sharad Mahajan** of the Pune-based nonprofit organization, Mashal.

Books, etc.
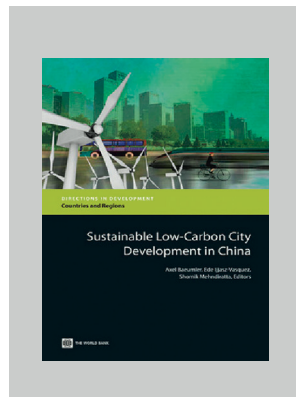
Sustainable Low-Carbon City Development in China edited by Axel Baeumler et al. Publisher: World Bank. The various chapters present overall approaches and achievements in low carbon city developments and highlight specific experiences across all urban sectors.
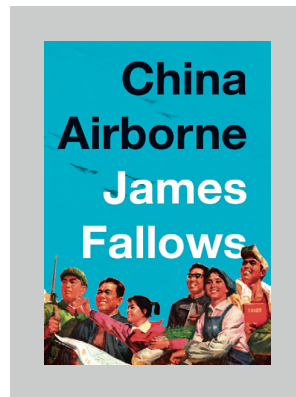
China Airborne by James Fallows. Publisher: Pantheon. Over the past 10 years, air traffic has declined in most of the world, but in China it has more than doubled.

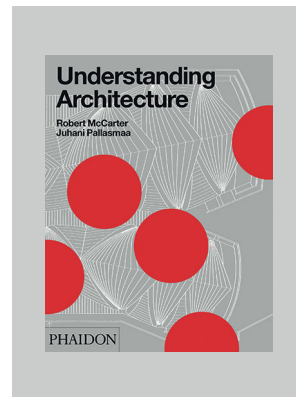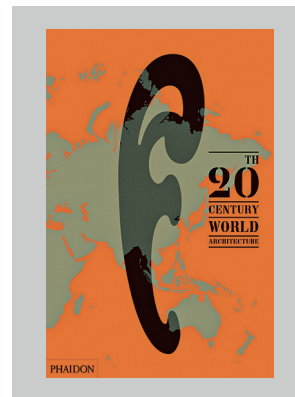**Understanding Architecture** by Robert McCarter and Juhani Pallasmaa. Publisher: Phaidon. Intended both as an introductory text for students as well as an accessible read for a general audience.

20th Century World Architecture Publisher: Phaidon. In a single volume, over 750 of the most outstanding works of architecture built between 1900 and 1999, many of which are in the global South.
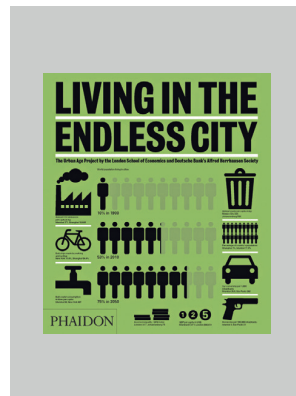
The Endless City and **Living in the Endless City** edited by Ricky Burdett and Deyan Sudjic. Publisher: Phaidon. Both books are excellent primers on the challenges facing the world's rapidly expanding cities.
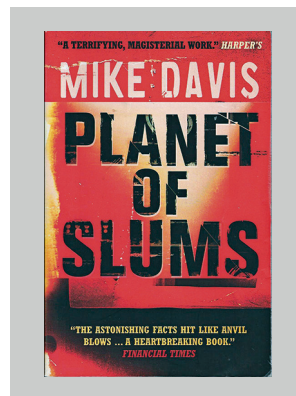
Planet of Slums by Mike Davis. Publisher: Verso Books. The author explores the future of a radically unequal and explosively unstable urban world.
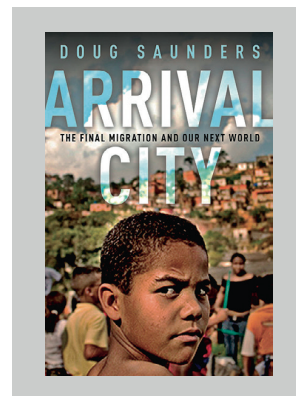
Arrival City by Doug Saunders. Publisher: Pantheon. A third of humanity is on the move. History's largest migration is the focus of this book.

Concrete edited by William Hall. Publisher: Phaidon. A fresh look at the world's most versatile and abundant building material. The projects take the reader on a global tour of inspiring and intriguing structures.

Papers + Reports

State of China's Cities: 2010/2011: Better City, Better Life. Publisher: UN-Habitat. **Website:** www.scribd.com/doc/39882697/State-of-China-s-Cities-Report-2010-2011

The Emerging Middle Class in Developing Countries. Publisher: OECD. **Website:** www.oecdilibrary.org/oecd/content/workingpaper/5kmmp8lncrns-en (PDF - 2.09 mb)

Bigger Cities, Smaller Screens: Urbanization, Mobile Phones, and Digital Media Trends in Africa. Publisher: Center for International Media Assistance. The convergence of African urbanization and technological change, including the rise of digital media, is driving major change on the continent. Perhaps most dramatic, cellphones and other mobile devices, already widespread, are becoming a nearly universal platform not only for telephony but also for audio and video information and entertainment. This offers a fundamentally different "media" experience and has already led to an entirely new and largely unrecognized class of independent media – some newly created channels for international broadcasters – serving the African continent. This report traces the dramatic spread of mobile telephony in Africa and examines how this is affecting the news media landscape on the continent. **Website:** http://cima.ned.org/publications/bigger-cities-smaller-screens-urbanization-mobile-phones-and-digital-media-trends-afric

Online Content
www.southerninnovator.org

A wide range of online resources is available to Southern entrepreneurs through our various websites. Check it all out!

Southern Innovator website
The **Southern Innovator** website archive is home to stories going back to 2006. This site is intended to be a resource for sharing the solutions and innovations found in the South. It is also a tool for weaving and fostering South-South networking around the world.
Website: www.southerninnovator.org

South-South Global Assets and Technology Exchange
SS-GATE is a virtual and physical platform where entrepreneurs in developing countries can interact and obtain needed technology, assets and finance in a secure environment. SS-GATE facilitates the realization of actual business transactions through a market mechanism, offering both online and offline beginning-to-end support services.
Website: www.ss-gate.org

Global South-South Development Expo
The Global South-South Development Expo (GSSD Expo) is the first-ever Expo solely from the South and for the South. It showcases successful Southern-grown development solutions (SDSs) to address the need to meet the Millennium Development Goals (MDGs).
Website: www.southsouthexpo.org

Global South-South Development Academy
The Global South-South Development Academy is an online, action-oriented service platform that facilitates access to Southern development solutions and Southern expertise for learning and application.
Website: tcdc2.undp.org/GSSDAcademy

Issue 1

Mobile Phones & Information Technology.

Issue 2
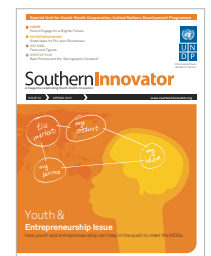
Youth & Entrepreneurship.

Issue 3

Southern Innovator's third issue is about agribusiness and food security and how small-scale farmers can become agribusinesses.

Issue 4

Southern Innovator's fourth issue, on cities and urbanization, shows how innovators are handling the largest migration to urban areas in human history.

Cities

TREND

The Global South's Rising Megacities Challenge Idea of Urban Living
• **Endless City** and **Living in the Endless City:** LSE Cities is an international centre at the London School of Economics and Political Science that carries out research, education and outreach activities in London and abroad. Its mission is to study how people and cities interact in a rapidly urbanizing world, focusing on how the design of cities impacts on society, culture and the environment. *Website: lsecities.net/publications/books/ the-endless-city*
• **Planet of Slums** by Mike Davis: According to the United Nations, more than 1 billion people now live in the slums of the cities of the South. Mike Davis explores the future of a radically unequal and explosively unstable urban world. *Website: books.google.co.uk/books/about/ Planet_Of_Slums.html?id=FToaDLPB2jAC*
• **An infographic from** *The Guardian* newspaper showing the rise of the megacity in world history. *Website: guardian.co.uk/global-development/ interactive/2012/oct/04/rise-of-megacities-interactive*
• **Arrival City** by Doug Saunders: A third of humanity is on the move. History's largest migration is creating new urban spaces that are this century's focal points of conflict and change – unseen districts of rapid transformation and febrile activity that will reshape our cities and reconfigure our economies. *Website: arrivalcity.net*
• **Global Urbanist:** The *Global Urbanist* is an online magazine reviewing urban affairs and urban development issues in cities throughout the developed and developing world. *Website: globalurbanist.com*
• **The Spirit of Cities** by Daniel A. Bell and Avner de-Shalit: Why the identity of a city matters in a global age. *Website: amazon.com*
• **"Rise of the Asian Megacity":** *Website: bbc.co.uk/news/world-13821253*
• **"Capitals of the Connected World: Mapping the New Global Power Structure."** *Website: theatlantic.com/special-report/ capitalsconnected-world*

Global South Eco-cities Show How the Future Can Be
• **Center for Innovation, Testing and Evaluation (CITE):** Located in Texas, USA, CITE is a fully functioning city with no residents to test new technologies before they are rolled out in real cities. *Website: pegasusglobalholdings.com/ test-center.html*
• **Digital Cities of the Future:** In Digital Cities, people will arrive just in time for their public transportation as exact information is provided to their device. The Citizen-Centric Cities (CCC) is a new paradigm, enabling governments and municipalities to introduce new policies. *Website: eit.ictlabs.eu/action-lines/ digital-cities-of-the-future*
• **Eco-city Administrative Committee:** *Website: eco-city.gov.cn*
Sino-Singapore Tianjin Eco-City, Investment and Development Co., Ltd. *Website: tianjineco-city.com*

• **"The Future Build" initiative, a new green building materials portal from Masdar City.** *Website: thefuturebuild.com*
• **UN-Habitat:** The United Nations Human Settlements Programme is the UN agency mandated to promote socially and environmentally sustainable towns and cities, with the goal of providing adequate shelter for all. *Website: unhabitat.org*

BUILD

Colombian Architect Proving Strength and Beauty of Bamboo
• **New Bamboo Architecture and Design** by Marcelo Villegas. *Website: powells.com/cgi-bin/ biblio?inkey=4-9588156068-0*
• **Deboer Architects:** An American architecture firm inspired by the work of Simon Velez, with explanations of bamboo building projects. *Website: deboerarchitects.com/ BambooThoughts.html*

Making Bamboo Houses Easier to Build
• **UNEP:** The UN Environment Programme has produced a report on bamboo biodiversity and how it can be preserved. *Website: unep-wcmc.org*
• **ADB:** The Asian Development Bank is using its Markets for Poor programme to link bamboo products to marketplaces, helping poor communities. *Website: markets4poor.org*
• **UN-Habitat:** The United Nations Human Settlements Programme (UN-Habitat), is the United Nations agency for human settlements. It is mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities, with the goal of providing adequate shelter for all. *Website: unhabitat.org*

Model Cities across the South Challenge Old Ways
• **More Urban, Less Poor:** The first textbook to explore urban development and management and challenge the notion that unplanned shanty towns without basic services are the inevitable consequence of urbanization. *Website: earthscan.co.uk*

INNOVATION

Innovation in Growing Cities to Prevent Social Exclusion
• **Building and Social Housing Foundation:** The Building and Social Housing Foundation (BSHF) is an independent research organization that promotes sustainable development and innovation in housing through collaborative research and knowledge transfer. *Website: bshf.org*

Indian Toilet Pioneer Champions Good Ideas
• **World Toilet Organization (WTO) is a global non-profit organization committed to improving toilet and sanitation conditions worldwide.** *Website: worldtoilet.org*
• **World Toilet Day:** On 19 November every year, this event draws attention to the lack of access for 2.6 billion people. *Website: worldtoilet.org*
• **World Toilet College:** Established in 2005, the World Toilet College (WTC)

started as a social enterprise, with the belief that there is a need for an independent world body to ensure that the best practices and standards in toilet design, cleanliness and sanitation technologies are adopted and disseminated through training. *Website: worldtoilet.org/wto/index.php/ our-works/world-toilet-college*
• **Builders Without Borders:** Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction. *Website: builderswithoutborders.org*
• **World Hands Project:** An NGO specializing in simple building techniques for the poor. *Website: worldhandsproject.org*
• **CIDEM and Ecosur:** CIDEM and Ecosur specialize in building low-cost community housing using eco-materials. They have projects around the world and are based in Cuba. *Website: ecosur.org*

Decent and Affordable Housing for the Poor
• **Builders Without Borders:** Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction. *Website: builderswithoutborders.org*
• **Tsunami-safe House:** A design for Prajnopaya Foundation: a project coordinated by the SENSEable City Laboratory, a new research initiative between the Department of Urban Studies and Planning and the Media Lab at the Massachusetts Institute of Technology in Boston, Massachusetts, USA, in collaboration with the Harvard Design School Tsunami Design Initiative group. *Website: senseable.mit.edu/ tsunami-prajnopaya*

Kenyan Eco-village Being Built by Slum Dwellers
Builders Without Borders: Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction. *Website: builderswithoutborders.org*
• **Slum TV:** Based deep inside Nairobi's largest slum, Mathare, it has been seeking out the stories of hope where international media see only violence and gloom. *Website: slum-tv.org*

Pioneering Chilean Eco-buildings
• **Transoceanica:** Series of photographs and architectural renderings of the Transoceanica headquarters. *Website: plataformaarquitectura. cl/2010/10/28/edificio-transoceanica-arquitectos-2*
• **Prefab housing:** An inspiring collection of prefabricated buildings and the techniques used to make them. *Website: inhabitat.com/architecture/ prefab-housing*
• **Tiny House Design Blog:** The blog is full of ideas and plans for making small homes cheaply. *Website: tinyhousedesign.com*

Energy-efficient Wooden Houses Are Also Earthquake Safe
Crisis Commons: How to activate support from the global technology community in a disaster. *Website: crisiscommons.org*
• **UNICEF:** Community-Based Disaster Preparedness Projects (CBDPs) in India have been helping communities to restructure to survive when disaster strikes. *Website: unicef.org.uk/campaigns*

recycled and used again without losing any material quality – in cradle-to-cradle cycles. *Website: mcdonough.com/cradle_to_ cradle.htm*
• **Builders Without Borders:** Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction. *Website: builderswithoutborders.org*
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• **Tiny House Design Blog:** The blog is full of ideas and plans for making small homes cheaply. *Website: tinyhousedesign.com*

African Megacity Makeovers Tackle Rising Populations
• **Cities of Change: Addis Ababa:** *Transformation Strategies for Urban Territories in the 21st Century* by Marc Angélil and Dirk Hebel. *Website: tinyurl.com/3ybzcgo*
• **A photo essay on Lagos from** *Time* magazine. *Website: time.com/time/ photogallery/0,29307,1837378,00.html*
• **Ethiopian Institute of Architecture, Building Construction and City Development (EiABC), Addis Ababa University.** *Website: eiabc.edu.et*
• **EiABC** published the first scientific architectural and urban book in Ethiopia titled *Building Ethiopia: Sustainability and Innovation in Architecture and Design*: *Building Ethiopia* attempts to record and document the prominent ideologies, approaches, and discoveries of its time within the disciplines of the built environment. It is intended to create a link between academia, practitioners and decision makers of the building sector, as only the integration of these three actors will bring about the changes and innovations needed to push the construction industry forward. *Website: eiabc.edu.et/building-ethiopia*

Rebuilding after Chinese Earthquake: Beautiful Bamboo Houses
• **Architecture for Humanity:** By tapping a network of more than 40,000 professionals willing to lend time and expertise to help those who would not otherwise be able to afford their services, they bring design, construction and development services where they are most critically needed. *Website: architectureforhumanity.org*
• **Chinese Red Cross:** The Red Cross Society of China is accepting donations for disaster reconstruction and is coordinating rebuilding efforts in Sichuan. *Website: www.redcross.org.cn/hhzh*
• **Gerd Niemoeller:** Niemoeller has developed flat-pack, cardboard homes that can be deployed quickly after a disaster and can become permanent homes. *Website: archicentral.com/tag/gerd-niemoeller*
• **Global Greenhouse Warming:** A website that tracks extreme weather events around the world: drought, flooding, severe storms, severe winters, tropical cyclones, wildfires and extreme heat waves. *Website: global-greenhouse-warming.com*

Debt-free Homes for the Poor
• **Cradle to Cradle: Remaking the Way We Make Things**: This radical concept is about how products can be used,

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• **Disaster preparedness:** The Government of the United States has extensive resources online on how to prepare for a wide variety of natural and man-made disasters. *Website: fema.gov/areyouready*
• **Disaster preparedness:** The magazine *Popular Mechanics* has excellent resources on how anyone can prepare his/her family and community for disasters. *Website: popularmechanics.com/survival*
• **Telecoms Sans Frontières:** Focuses on providing communications in the first days after an emergency. *Website: tsfi.org*
• **Wooden home:** A story on how researchers are perfecting wooden home designs to withstand heavy earthquakes. *Website: inhabitat.com/wooden-house-can-withstand-severe-earthquakes*
• **Wooden homes:** A website packed with photographs of wooden and other houses for inspiration and lesson learning. *Website: trendir.com/house-design/wood_ homes*
• **Norwegian wooden house:** A step-by-step slideshow on how a Norwegian wooden house was rebuilt. *Website: dwell.com/articles/norwegian-wood. html*
• **Home decorating:** Inspirational wooden home-decorating ideas from across Scandinavia. *Website: myscandinavianhome.blogspot.cz*

Cuba's Hurricane Recovery Solution
"How Cuba Survived Peak Oil": An award-winning film on how Cuba transitioned from a highly mechanized, industrial agricultural system to one using organic methods of farming and local, urban gardens. It is an unusual look into the Cuban culture during this economic crisis, which they call "The Special Period". *Website: www.powerofcommunity.org/cm/ index.php*
Global Greenhouse Warming: A website that tracks extreme weather events around the world: droughts, flooding, severe storms, severe winters, tropical cyclones, wildfires and extreme heat waves. *Website: global-greenhouse-warming.com/ extreme-weather.html*
Cuba Hurricanes: Real-time reports of current hurricane threats to Cuba provided by an office in Old Havana. Also information on hurricanes of historical significance to Cuba. *Website: cubahurricanes.org*
• **CIDEM and Ecosur:** CIDEM and Ecosur specialize in building low-cost community housing using eco-materials. They have projects around the world and are based in Cuba. *Website: ecosur.org*

Urbanization

INNOVATION

Toilet Malls Make Going Better
• **World Toilet Organization:** The global non-profit organization committed to improving toilet and sanitation conditions. *Website: www.worldtoilet.org*
• **World Toilet College:** Established in 2005, the World Toilet College (WTC)

started as a social enterprise, with the belief that there is a need for an independent world body to ensure that the best practices and standards in toilet design, cleanliness and sanitation technologies are adopted and disseminated through training. *Website: worldtoilet.org/wto/index.php/ our-works/world-toilet-college*
• **Iko:** A set of photos on Flickr of the Iko toilets. *Website: flickr.com/photos/ wateradvocates/3306962447*

Tiny Homes to Meet Global Housing Crisis
• **Tiny House Design Blog:** The blog is full of ideas and plans for making small homes cheaply. *Website: tinyhousedesign.com*
Tata: A blog detailing the Tata dwellings in diagrams and photographs. *Website: www.tslr.net/2009/06/tatas-nano-homes.html*

Housing Innovation in South's Urban Areas
• **Studio MK27:** A Brazilian architecture firm. *Website: marciokogan.com.br*
• **Studio MK27 slideshow:** A slideshow of the Studio MK27 house and its surrounding neighbourhood. *Website: dwell.com/slideshows/sao-paulo-brazil-dwelling.html*
Dwell: A slideshow of an Indonesian home. *Website: dwell.com/slideshows/ jakarta-indonesia-dwelling.html*
• **Mass Design Group:** Mass Design Group are architects building "social value through design". Their architectural projects focus on social goals, such as their work building a hospital in Rwanda that reduces the transmission of airborne diseases. *Website: massdesigngroup.org*

Help Is at Hand for India's Beleaguered Bus Riders
• **IDiscoverIndia:** A website detailing how to explore India's vast bus network. *Website: idiscoverindia.com/Travel_Info/ india_travel_bus.html*
• **TiE: Fostering Entrepreneurship Globally:** The Indus Entrepreneurs (TiE) was founded in 1992 in Silicon Valley by a group of successful entrepreneurs, corporate executives and senior professionals with roots in the Indus region. TiE's mission is to foster entrepreneurship globally through mentoring, networking and education. Dedicated to the virtuous cycle of wealth creation and giving back to the community, TiE's focus is on generating and nurturing our next generation of entrepreneurs. *Website: tie.org*

URBAN CULTURE

Woman Restaurant Entrepreneur Embraces Brand-driven Growth
• **Restaurant Branding:** A website dedicated to discussing restaurant branding and how to do it. *Website: restaurantbranding.com*
• **How to Start a Restaurant:** Tips from the Entrepreneur.com website. *Website: entrepreneur.com/article/73384*
• **Gordon Ramsey:** Top tips on opening a restaurant from successful celebrity chef Gordon Ramsay. *Website: channel4.com/programmes/ ramsays-kitchen-nightmares/articles/ gordon-ramsays-top-tips-for-starting-a-restaurant*

• **Restaurant start-up:** Tips on how to handle the start-up costs of a restaurant. *Website: inc.com/articles/201111/ business-start-up-costs-restaurant.html*

Chinese Building Solution for Rapidly Urbanizing Global South
• **20th Century World Architecture:** Focusing on 750 of the most outstanding works built between 1900 and 1999, the book features every imaginable building type. *Website: uk.phaidon.com/store*
• **Megacities Foundation:** The Megacities initiative originates from the awareness of the future role of cities as the dominant type of settlement for humanity. Cities will play this role not just as a matter of fact but out of necessity as the only way of housing the world's increasing population. *Website: megacities.nl*
• **Andrew Marr's Megacities:** A BBC series exploring the rise of the megacities and what life will be like for their residents. *Website: bbc.co.uk/programmes/b011ql6k*
• **The Rise of Megacities Interactive:** An online resource on the world's rising megacities. *Website: guardian.co.uk/global-development/ interactive/2012/oct/04/rise-of-megacities-interactive*

Book Boom Rides Growing Economies and Cities
• **Creative Economy Report 2008:** An economic and statistical assessment of creative industries worldwide as well as an overview of how developing countries can benefit from trade in creative products and services. Produced by UNCTAD and the Special Unit for South-South Cooperation in UNDP. *Website: unctad.org/en/Pages/Publications/ Creative-Economy-Report-%28Series%29. aspx*
• **Indian publishers:** A directory of Indian publishers. *Website: publishersglobal.com/directory/ publishers-by-country.asp?publishers-of=India*
• **Full Circle Publishing:** A successful Indian publishing company. *Website: atfullcircle.com*

South Gets Reading Bug with More Festivals
• **Singapore International Story Telling Festival:** Operating since 2006, the Singapore International Story Telling Festival has competitions, readings and seminars. *Website: bookcouncil.sg/sisf*
• **Storytelling:** The basics of storytelling are answered on this website. *Website: timsheppard.co.uk*
• **Creative Economy Report 2008:** An economic and statistical assessment of creative industries worldwide as well as an overview of how developing countries can benefit from trade in creative products and services. Produced by UNCTAD and the Special Unit for South-South Cooperation in UNDP. *Website: unctad.org/en/Pages/Publications/ Creative-Economy-Report-%28Series%29. aspx*
• **Campaign for Education:** Since the campaign started in 1999, 40 million more children have been able to access school. *Website: campaignforeducation.org*
• **Literacy:** World literacy rates by country. *Website: en.wikipedia.org/wiki/List_of_ countries_by_literacy_rate*

Smart Cities Up Close
• **Chengdu Smart City:** More on Chengdu Hi-tech Development Zone from the Sichuan Provincial People's Government. *Website: www.sc.gov.cn/10462/10758/11793/1 1795/2012/7/26/10219624.shtml*
• **Rice Industry Hub:** Architectural renderings showing the Rice Industry Hub for Chengdu Smart City. *Website: archinect.com/people/ project/50597893/chengdu-smart-city/55352002*
• **Konza Technology City:** This site offers all the information and insight that you need to fully appreciate and take full advantage of Konza's phenomenal growth. Find out why some of the world's most successful companies, the most talented people and major international investors plan to come to Konza. *Website: konzacity.co.ke*
• **Songdo :** More on the fast-developing Songdo International Business District (IBD). *Website: songdo.com*
• **TEDA:** Tianjin Economic-Technological Development Area (TEDA) is located close to Tianjin and is a fast-growing technology and investment zone in China. *Website: en.investteda.org*

Housing Solution for World's Growing Urban Population
• **Cradle to Cradle: Remaking the Way We Make Things**: This radical concept is about how products can be used, recycled, and used again without losing any material quality – in cradle-to-cradle cycles. *Website: mcdonough.com/cradle_to_cradle. htm*
• **Builders Without Borders:** Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction. *Website: builderswithoutborders.org*
• **World Hands Project:** An NGO specializing in simple building techniques for the poor. *Website: worldhandsproject.org*
• **Rural Development Institute:** The Rural Development Institute focuses on land rights for the poor and has a series of articles on China's land reforms. *Website: rdiland.org*

Envisioning Better Slums
• **Shelter Associates:** Established by Indian architect Pratima Joshi, an NGO working on slum rehabilitation. *Website: shelter-associates.org*
• **SPARC:** one of the largest Indian NGOs working on housing and infrastructure issues for slum dwellers. *Website: sparcindia.org*

Philippine Architect Wants to Transform Slum with New Plan
• **Slum Populations in the Developing World:** See a breakdown of the urban/ slum population in developing countries. *Website: news.bbc.co.uk/1/hi/5078654.stm*
• **Architecture for Humanity:** An NGO to promote architectural and design solutions to global, social and humanitarian crises. *Website: architectureforhumanity.org*
• **Map Kibera:** NGO Map Kibera began work on an ambitious project to digitally map Africa's largest slum, Kibera, in Nairobi, Kenya. *Website: mapkibera.org*

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- **Cities for All:** Cities for All shows how the world's poor are building ties across the global South.
Website: globalurbanist.com/2010/08/24/cities-for-all-shows-how-the-worlds-poor-are-building-ties-across-the-global-south.aspx

Indian City Slum Areas Become Newly Desirable Places to Live
- **"Urbanized":** A documentary, "Urbanized" gives a passionate overview of the challenges facing the rapidly urbanizing world around us.
Website: urbanizedfilm.com

Two-stroke Engine Pollution Solution
- **Tukshop:** Tukshop is a website selling auto rickshaws and tuk-tuks.
Website: tukshop.biz
- **Auto rickshaws:** A wide range of auto rickshaws for sale.
Website: auto-rickshaw.com
- **Hybrid Tuk Tuk Battle:** The Hybrid Tuk Tuk Battle is a competition to come up with less polluting auto rickshaws, clean up the air in Asian cities, and improve the economic conditions for auto rickshaw drivers.
Website: hybridtuktuk.com
- **Clean Air Initiative for Asian Cities:** The Clean Air Initiative for Asian Cities promotes and demonstrates innovative ways to improve the air quality of Asian cities through partnerships and sharing experiences. It is run by the Asian Development Bank together with the World Bank and the United States Agency for International Development.
Website: cleanairinitiative.org/portal/index.php

Electric Bicycles Become Urban Transport Success
Electric Bike Website: Home to news and links to manufacturers. Also many resources on how to convert peddle bikes into electric bikes.
Website: electricbike.com
- **Luyuan Electric Vehicle Company:** The Luyuan Electric Vehicle Company of Jinhua City in China has been making the bikes for 10 years. They come fully equipped with lights, baskets and fenders and are available in many colours.
Website: luyuanbike.en.ecplaza.net
- **Empowered E-bikes:** An online retailer of e-bikes specializing in urban commuters.
Website: empoweredebikes.com/index.php
- **Made-in-China.com:** A large list of e-bike manufacturers in China and how to contact the dealers and manufacturers.
Website: made-in-china.com/products-search/hot-china-products/E-bike.html
- **Pedego:** An American company making high-end e-bikes.
Website: pedegoelectricbikes.com/index.php

Eco-cities Up Close
- **Tianjin Eco-city:** The Sino-Singapore Tianjin Eco-city's vision is to be a thriving city which is socially harmonious, environmentally friendly and resource-efficient.It is a flagship cooperation project between the Governments of Singapore and China.
Website: www.tianjinecocity.gov.sg
- **Ecocity World Summit:** The International Ecocity Conference Series brings together the key innovators, decision makers, technologists, businesses and organizations shaping

the conversation on ecological and sustainable city, town and village design, planning and development.
Website: ecocityworldsummit.org

Africa's Fast-growing Cities: A New Frontier of Opportunities
- **Diaspora African Forum:** This Forum exists "to invite and encourage the full participation of Africans in the Diaspora... in the building of the African Union, in its capacity as an important part of the Continent". It will provide the vital linkage for Diaspora Africans to become involved in Africa's development as well as reap the fruits of African unity.
Website: diasporaafricanforum.org
- **Business Action for Africa:** Business Action for Africa is a network of businesses and business organizations working collectively to accelerate growth and poverty reduction in Africa.
Website: businessactionforafrica.blogspot.com
- **Business Fights Poverty:** Business Fights Poverty is a professional network for all those passionate about fighting world poverty through the power of good business.
Website: businessfightspoverty.ning.com

Additional Resources

- **Cities**
Dwell: Dwell is a magazine exploring modern homes through the eyes of the people who live in them. It is focused on demonstrating that modern design can be both functional and comfortable.
Website: dwell.com
Jane Jacobs: Jane Jacobs (1916-2006) was an urbanist and activist whose writings championed a fresh, community-based approach to city building.
Website: centerforthelivingcity.squarespace.com
LSE Cities: LSE Cities is an international centre at the London School of Economics and Political Science that carries out research, education and outreach activities in London and abroad. Its mission is to study how people and cities interact in a rapidly urbanizing world, focusing on how the design of cities impacts on society, culture and the environment.
Website: lsecities.net
Modern Architecture: *Modern Architect* links to information on key studios, news, projects, and practices.
Website: e-architect.co.uk/modern_architects.htm
Oscar Niemeyer: A Brazilian architect who is considered to be one of the key figures in the development of modern architecture.
Website: e-architect.co.uk/architects/oscar_niemeyer.htm
UN-Habitat: The United Nations Human Settlements Programme, UN-Habitat, is the United Nations agency for human settlements. It is mandated by the UN General Assembly to promote socially and environmentally sustainable towns and cities, with the goal of providing adequate shelter for all.
Website: unhabitat.org

- **Urbanization**
Biz Community.com: "Africa's Leading Daily Retail News": Where the action is on Africa's fast-growing retail markets.
Website: bizcommunity.com/196/160.html

Richard Florida: The Creative Class Group is a boutique advisory services firm composed of leading next-generation researchers, academics and strategists.
Website: creativeclass.com/richard_florida
Global Urbanist: The *Global Urbanist* is an online magazine reviewing urban affairs and urban development issues in cities throughout the developed and developing world.
Website: globalurbanist.com
Monocle magazine: Launched in February 2007, *Monocle* is a global briefing on international affairs, business, culture and design headquartered in London.
Website: monocle.com
Urban Age: The Urban Age Programme, jointly organized with the Deutsche Bank's Alfred Herrhausen Society, is an international investigation of the spatial and social dynamics of cities centred on an annual conference, research initiative and publication.
Website: lsecities.net/ua
West Africa Trade Hub: The USAID West Africa Trade Hub uses a market-driven approach to increase exports from the region, making West Africa competitive in world markets. The Trade Hub provides direct assistance to hundreds of companies in six value chains. That work is complemented by teams tackling problems in transportation, telecommunications, access to finance and the business environment that make it difficult for West African companies to compete.
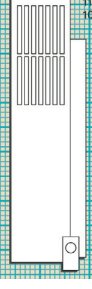*Website: watradehub.com*

Quick Resources
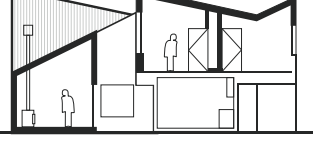
Tiny House Blog:
Website: tinyhouseblog.com

Cisco Smart + Connected Communities:
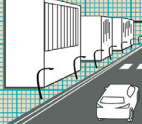*Website: cisco.com/web/strategy/smart_connected_communities.html*

Dwell Magazine:
Website: dwell.com

Broad Building Systems:
Website: broad.com

Key Terms and Abbreviations

Apps: Apps is an abbreviation for applications. An app is a piece of software. It can run on the Internet, on your computer or on your phone or other electronic device.
Cement: Noun: A powdery substance made by calcining lime and clay, mixed with water to form mortar or mixed with sand, gravel, and water to make concrete (*Oxford English Dictionary*).
Concrete: Noun: A building material made from a mixture of broken stone or gravel, sand, cement, and water, which can be spread or poured into moulds and forms a stone-like mass on hardening (*Oxford English Dictionary*).
Eminent domain: Noun: The right of a government or its agent to expropriate private property for public use, with payment of compensation. In the United Kingdom of Great Britain and Northern Ireland it is used chiefly of international law, whereas in the United States it is used of federal and state governments (*Oxford English Dictionary*).
Geodesic dome: Noun: A dome constructed of short struts following geodesic lines and forming an open framework of triangles or polygons. The principles of its construction were described by Buckminster Fuller (*Oxford English Dictionary*).
Logo: Noun: A symbol or other small design by an organization to identify its products, uniform, vehicles, etc. (*Oxford English Dictionary*).
Modular: Adjective: Employing or involving a module or modules as the basis of design or construction: modular housing units (*Oxford English Dictionary*).
Prefabricate: Verb: Manufacture sections of (a building or piece of furniture) to enable quick assembly on site: prefabricated homes (*Oxford English Dictionary*).
Smartphone: Noun: A mobile phone that is able to perform many of the functions of a computer, typically having a relatively large screen and an operating system capable of running general-purpose applications (*Oxford English Dictionary*).
UNDP: The United Nations Development Programme is the United Nations' global development network.

NEXT ISSUE OF
Southern**Innovator**

WASTE AND RECYCLING

Southern Innovator is published by the United Nations Office for South-South Cooperation in UNDP, New York, New York, USA. The Office also publishes a monthly e-newsletter, *Development Challenges, South-South Solutions* (southerninnovator.org).

The views expressed in this publication are those of the author(s) and do not necessarily represent those of the United Nations, the United Nations Development Programme or governments.

GLOBAL SOUTH-SOUTH DEVELOPMENT EXPO

SOLUTIONS!

www.southsouthexpo.org

United Nations Office for South-South Cooperation in UNDP

MILLENNIUM DEVELOPMENT GOALS

Number of new people living in African cities in the next 20 years:

300 million

By 2025, number of world's top-10 megacities in Asia: **7**

Number of Indians living in cities by 2030 – 40 per cent of the population: **590 million people**